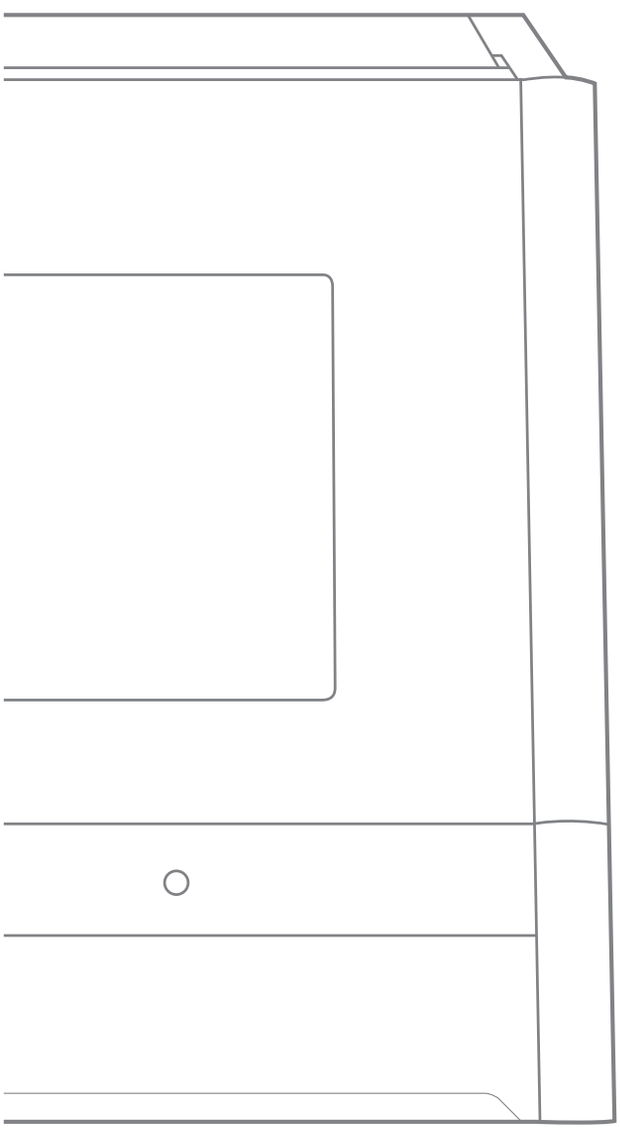
DWX-51D

User's Manual



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2 Milling

3 Maintenance

4 Troubleshooting

Roland DG Corporation has developed a special website introducing dental solutions. For the latest information regarding this machine (including manuals), see our special Easy Shape website (http://www.rolandeasyshape.com).

Roland DG Corporation

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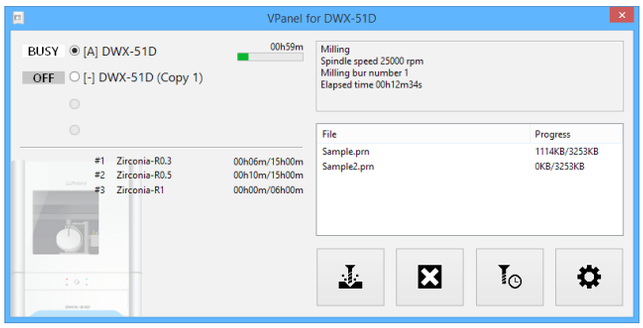
Displaying or Exiting VPanel

What is VPanel?



VPanel is an application that allows milling machine operation on a computer screen. It has functions for outputting milling data, performing maintenance, and making various corrections. The milling machine status and errors can also be displayed.

☞"Setup Guide" ("Installing the Software")

Displaying VPanel

Click 51D (VPanel icon) in the task tray on the desktop.

The top window of VPanel will appear. If you cannot find 51D in the task tray, start the program from the Windows [Start] screen (or the [Start] menu).

Starting from the Windows [Start] screen (or [Start] menu)

Windows 8.1

Click on the [Start] screen, and from the Apps screen, click the [VPanel for DWX-51D] icon under [Roland DWX-51D].

Windows 8

Right-click the background in the [Start] screen to display the app bar, and click [All Apps]. Click the [VPanel for DWX-51D] icon under [Roland DWX-51D].

Windows Vista/7

From the [Start] menu, click [All Programs] (or [Program]), then [Roland DWX-51D]. Then click [VPanel for DWX-51D].

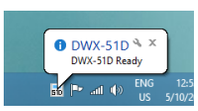
VPanel serves as resident software.

VPanel works as resident software that is constantly working to manage the milling machine, send e-mails*, and so on. It is recommended to configure the settings so that VPanel starts automatically when the computer starts. (☞ P. 8""Settings" Tab") In addition, clicking × in the upper right of the top window will minimize the window to the task tray. The window will disappear from the screen, but the program will not be exited. While VPanel is running, 51D is constantly displayed in the task tray.

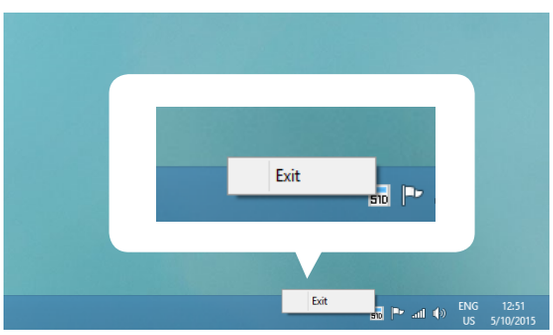
*E-mails are sent to notify of milling completion or errors that occur. (☞ P. 10""Mail" Tab")

VPanel Display in the Task Tray

When the VPanel icon is displayed in the task tray, the status of a connected milling machine is always monitored. The display of the VPanel icon changes depending on the status of the milling machine. The meanings of the displays are shown below.

	Indicates that at least one of the connected milling machines is on (is online).
	Indicates that all the connected milling machines are off.
	Indicates that an error has occurred on at least one of the connected milling machines. If you hover the mouse pointer over this icon, you can check which machine has the error.
	Messages are displayed automatically if an error occurs, during milling, and in similar situations. Even after the message disappears, if you hover the mouse pointer over this icon, the status of each connected machine (such as Ready, Milling, Finished, Completed, or Offline) will be displayed. Messages prompting you to perform maintenance (such as "Spindle run-in required") will also be displayed. In these situations, perform the maintenance work indicated by the message.

Exiting VPanel

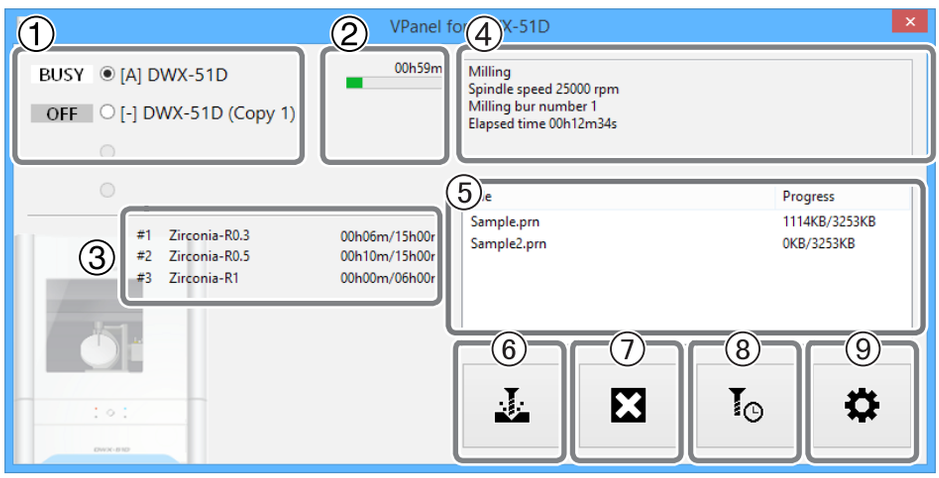


Right-click on in the task tray and click [Exit].

VPanel Window and Functions

Top Window

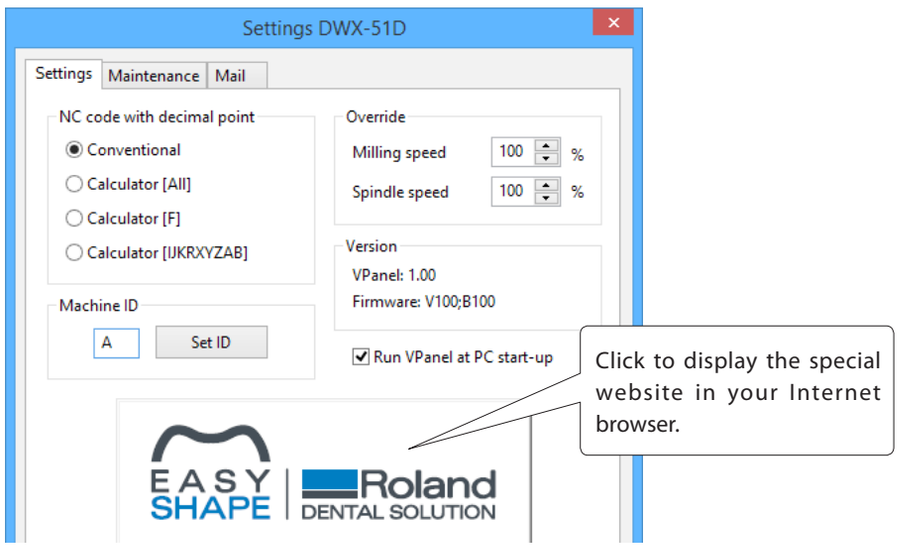
The top window displays the statuses of connected milling machines and an output list of milling data. Output of milling data can also be executed in this window.



No.	Displayed content	Details
①	Machine operation status	READY : Milling data can be received. OFF : The power of the milling machine is off. BUSY : Operation is in progress. ERROR : An error has occurred. PAUSE : Operation is paused. COVER : The front cover is open. FINISH : Milling is complete. (Will change to READY if the front cover is closed.)
	Name of connected machine	Displays the ID and name of the connected machine. The ID of machines with the power turned off are shown with [-]. If you click the name of a connected milling machine, the status light of the milling machine will flash. This allows verification of a connected machine when multiple machines are connected.
②	Remaining time graph	The estimated milling time and a progress bar are displayed.
③	Milling bur work time	Displays the name of the tool selected in "Tool management," the current work time, and the time when it must be replaced. For example, "00h01m/06h00m" indicates that "00h01m" is the work time and "06h00m" is the replacement time of the tool.
④	Milling machine status	Displays the operation status, spindle speed, milling time, etc. The information displayed is for the machine that has the radio button to the left of the name selected.
⑤	Output list	Displays the data being milled, the milling data in standby, and the milling progress.
⑥	Output a file	Outputs milling data. ☞ P. 24"STEP 3: Outputting Milling Data"
⑦	Cancel	Cancels output of milling dataCancels output of milling data and other functions.
⑧	Milling bur management	Allows for registration and selection of milling burs. ☞ P. 12""Milling bur management" Dialog Box"
⑨	Settings	Displays the SETTINGS window. ☞ P. 8""Settings" Tab", P. 9""Maintenance" Tab", P. 10""Mail" Tab"

"Settings" Tab

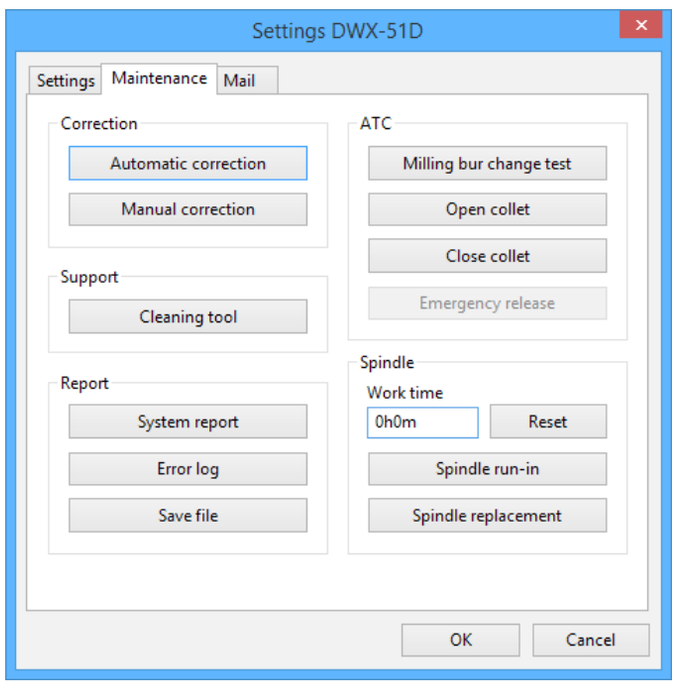
In this tab, you can configure settings related to VPanel auto-startup and NC codes. When more than one machine is connected, the machine selected in the top window becomes the target for the setting.



NC code with decimal point	Select the how to interpret numbers in NC codes. With "Conventional," the unit is interpreted as millimeter (or inch) when there is a decimal point, and as 1/1000 millimeter (or 1/10000 inch) when there is no decimal point. With "Calculator," the unit is always interpreted as millimeter (or inch) regardless of whether there is a decimal point. Select the scope of the application when selecting "Calculator." Select an appropriate setting according to your CAM or NC code. ➢ Initial setting: Conventional
Machine ID	When multiple machines are connected to one computer, it's necessary to set IDs for the machines. Select the machine to use in the VPanel top window. ➢ Initial setting: A ☞ "Setup Guide" ("Connecting Multiple Units") ***Important*** To change an ID, be sure to follow the procedure explained in the "Setup Guide."
Run VPanel at PC start-up	When this is checked, VPanel will start automatically when Windows starts up, and the VPanel icon will be displayed in the task tray. ➢ Initial setting: Checked
Version	VPanel: VPanel version Firmware: Connected machine's firmware version When more than one machine is connected, information for the machine selected in the top window is displayed.
Override	You can adjust the milling speed and the spindle speed. This is useful when you want to change the milling speed, etc., on the fly while monitoring the milling status. Overrides are specified in percentages. For example, if the milling data command sent from the computer is 10,000 rpm, setting the override to 150% will cause the rotation speed to be 15,000 rpm. **Milling speed** Allows adjustment of the milling bur movement speed when milling the workpiece. If the speed specified by the command in the milling data is taken to be 100%, inputting a large value will result in faster speeds, and a small value in slower speeds. **Spindle speed** You can adjust the spindle speed during milling. If the rotation specified by the command in the milling data is taken to be 100%, inputting a large value will result in an increased rotation, and a small value in a decreased rotation. ➢ The override will return to 100% when the milling machine is turned OFF. ➢ In the top window, the spindle speed is shown as the speed specified by the milling data command and not the speed after the override. ➢ Setting an override does not let you perform operations beyond the machine's maximum or minimum speeds (rotation speeds).

"Maintenance" Tab

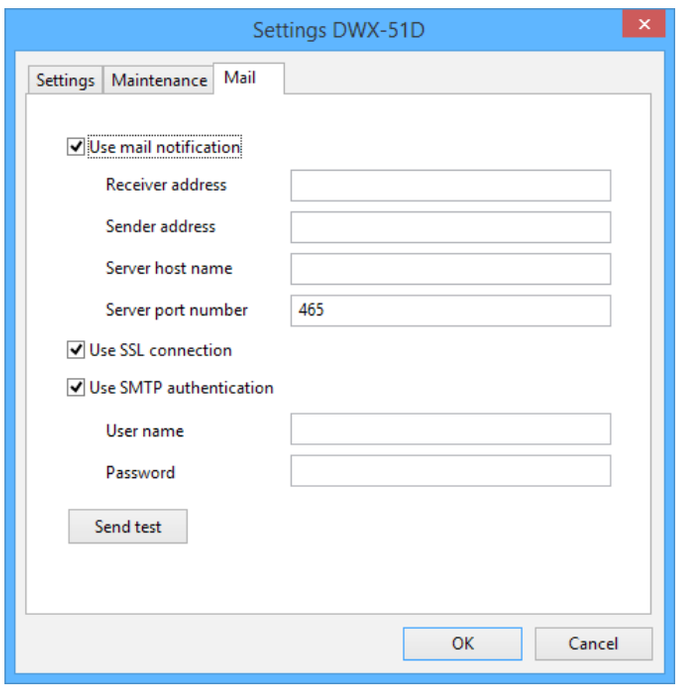
In this tab, you can perform operations related to maintenance, including automatic correction of the milling machine and system reporting. When more than one machine is connected, the machine selected in the top window becomes the target for the operations.



Correction	Correct the ATC magazine position or the rotary axis position. You can usually use "Automatic correction." ☞ P. 33"Correcting the Milling Machine" ☞ P. 11""Manual correction" Dialog Box"
Cleaning Tool	This function is used for cleaning. Push this button to open the Cleaning tool dialog box. ☞ P. 14""Cleaning tool" Dialog Box"
ATC	Perform tests, maintenance, and other tasks related to operation with the ATC magazine. The "Emergency release" button is enabled when the power is turned on while the front cover is open. Use this function if initialization cannot be performed because, for example, the milling bur is caught on the workpiece. ☞ P. 31"Situations Requiring Maintenance" ☞ P. 35"Care and Storage of Detection Pin and Automatic Correction Jig"
Spindle	This function is used for long-term spindle management. "Work time" displays the work time of the spindle. After replacing the spindle unit, click "Reset" to reset the value to 0. ☞ P. 31"Replacing Consumable Parts" ☞ P. 33"Correcting the Milling Machine"
Report	Displays system reports (including firmware version and total operating hours) and error logs. Pressing the "Save file" button will collect the machine's log information and save it to a file.

"Mail" Tab

Settings in this tab can be configured so that a notification e-mail is sent when milling finishes, when an error occurs, or when maintenance is complete. When more than one machine is connected, all of the machines become the targets for the settings. Check "Use mail notification" to enter each item.



Receiver address	The recipient's e-mail address. You can input more than one address by separating with a comma.
Sender address	This becomes the sender's e-mail address. Input the mail address being used on the computer with VPanel installed.
Server host name	Enter the name of the outgoing mail server (SMTP server name) for the e-mail address input for the sender's address.
Server port number	Enter the outgoing mail server port number for the e-mail address input for the sender's address.
Use SSL connection	Check to use a security-protected connection (SSL). Configure the outgoing mail server settings for the e-mail address input for the sender's address.
Use SMTP authentication User name / Password	Check to use authentication when sending e-mails. Input the user name and password for authentication. Configure the outgoing mail server settings for the e-mail address input for the sender's address.

Click "Send test" to send a test e-mail. If the following e-mail is received at the address specified in "Receiver address," configuration of the settings is complete.

Subject: <Machine name> Body: Test

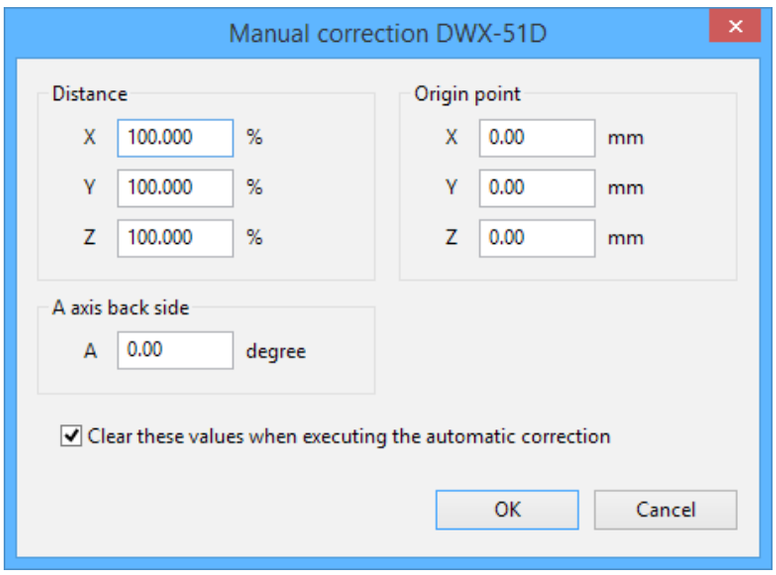
If the e-mail fails to send, the "Windows Script Host" error message will be displayed. Check the content in the input fields again.

Important

* It may be impossible to send e-mails because of security software settings or the like. If e-mails cannot be sent, check the settings of the security software being used as anti-virus software or for a similar purpose.
* For detailed information about the e-mail settings, consult your network administrator.
* VPanel does not support TLS connections (STARTTLS).

"Manual correction" Dialog Box

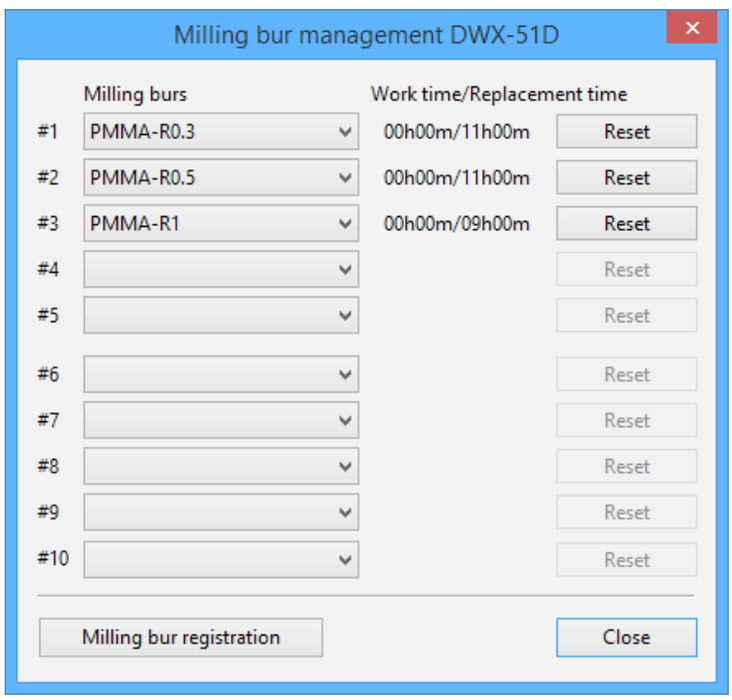
In this dialog, you can make corrections of the milling machine manually. Perform corrections if you want to precisely adjust the accuracy. When more than one machine is connected, the machine selected in the top window is the target of corrections.
* Perform automatic correction before performing this correction.

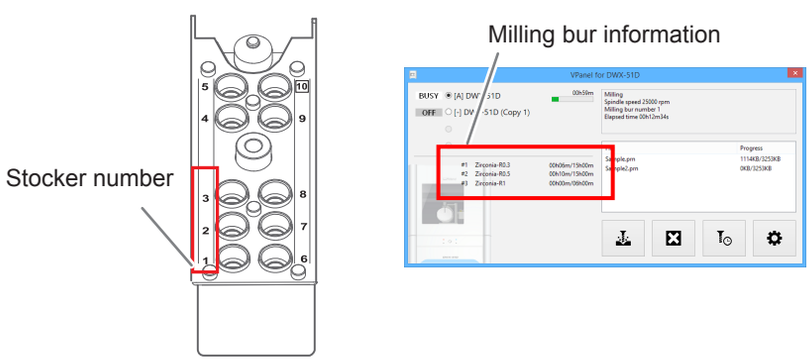


Distance	Correct moving distances in the X, Y, and Z directions. Set the correction value while considering the initial moving distance as 100%. ➢ Initial setting: 100%
A axis back side	Correct the angle when the A axis is rotated 180 degrees. Set the correction value while considering the initial setting as 0.00 degrees. ➢ Initial setting: 0.00 degrees
Origin point	Correct the origins of the X, Y, and Z axes. Set the correction value while considering the setting initial setting as 0.00 mm. ➢ Initial setting: 0.00 mm
Clear these values when executing the automatic correction	Check to reset the values for "Distance," "Origin point," and "A axis back side" when performing automatic correction. ➢ Initial setting: Checked

"Milling bur management" Dialog Box

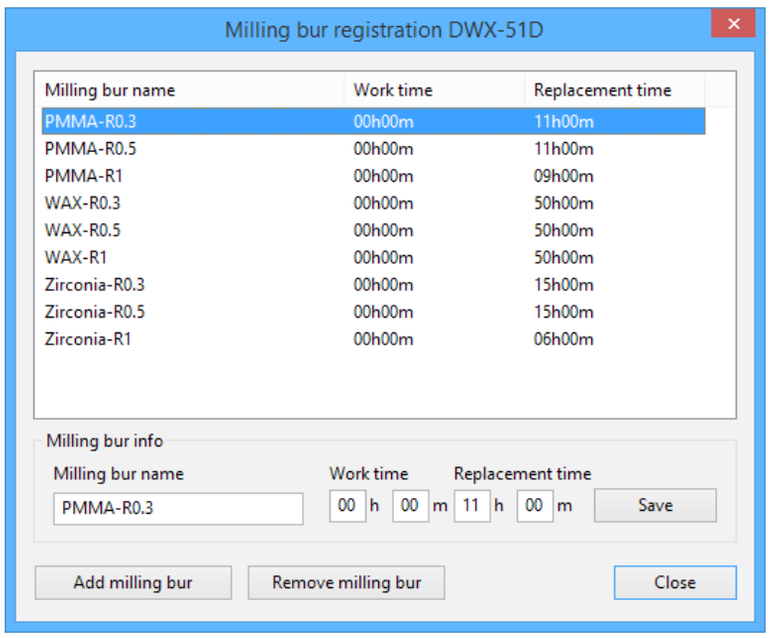
By selecting a milling bur to be used in this dialog box, the work time of the selected milling bur will be recorded automatically. In addition, when the bur reaches the preset replacement time, a warning message will be displayed. When more than one machine is connected, the machine selected in the top window is managed.



Milling bur	Click to display the milling bur for which "Milling bur registration" was performed. The stocker number of machine's ATC magazine should match the milling bur management numbers (1 through 10). The information for the selected milling bur will be displayed on the top window. ☞ P. 12""Milling bur management" Dialog Box" 
Work time / Replacement time	Displays the work time and replacement time of the selected milling bur. When the bur reaches the preset replacement time, a warning message will be displayed. The replacement time can be changed from "Milling bur registration." After replacing the milling bur with a new one, click "Reset" to set the work time to 0.
Milling bur registration	Here you can register milling burs whose work time you want to manage, or remove burs you no longer want to manage. Click here to display the "Milling bur registration" dialog box. ☞ P. 12""Milling bur management" Dialog Box"

"Milling bur registration" Dialog Box

A milling bur's registration information can be changed in order to change the work time or the replacement time. When more than one machine is connected, the milling bur for the machine selected in the top window will be the target.



Milling bur list	Displays the names, work times, and replacement times of the registered milling burs.
Milling bur info	Allows the milling bur name, work time, and replacement time of the milling bur selected in the list to be edited. Click "Save" to overwrite and save the edited content. Because replacement times depend on the type of milling bur or workpiece as well as the milling conditions, adjust the replacement time value as necessary.
Add milling bur	Registers additional milling burs. You can register up to 20 milling burs.
Remove milling bur	Removes the milling bur selected in the list.

"Cleaning tool" Dialog Box

This dialog box is used when cleaning the machine. It allows the rotary axis unit, spindle, and other parts to be moved. To verify the operation, place the mouse pointer over the button to switch the illustration.

Dust collector ON/OFF	Turns the dust collector ON/OFF. (For dust collectors with a linking function and connected with a linking cable.)
Front	Moves the rotary axis unit forward. Use this function when cleaning the rotary axis unit.
Rear	Moves the rotary axis unit to the back. Use this function when cleaning the back of the milling area.
Reverse side	Turns the clamp over. Use this function when cleaning the back side of the clamp.
Spindle	Moves the spindle unit to a visible location. Use this function when cleaning around the spindle unit.

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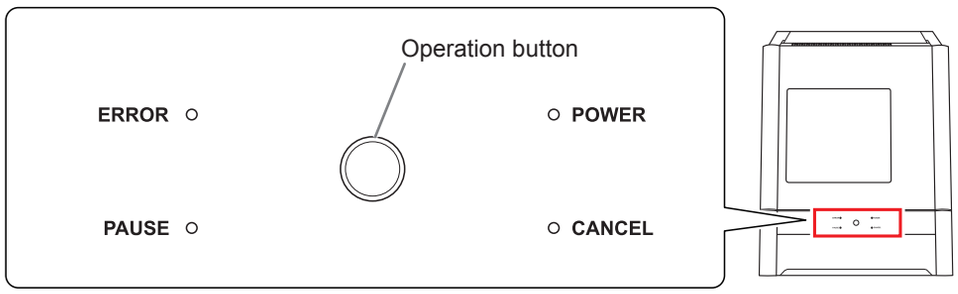
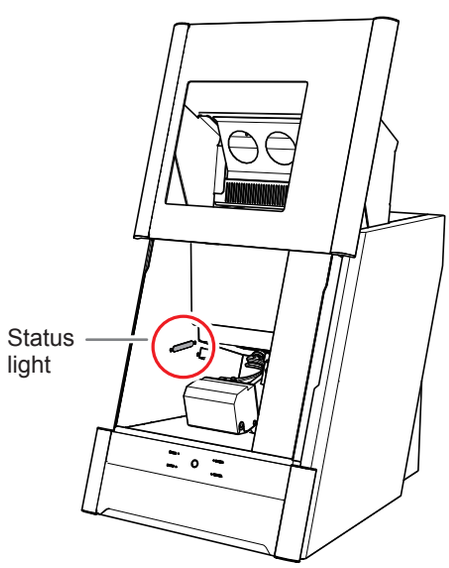
Using / Reading the Built-In Panel



ERROR	Flashes when an error has occurred.
PAUSE	Illuminates when operation is paused.
POWER	This lights up when the power is turned on.
CANCEL	Flashes when data is being cancelled and during initialization. Milling data received while this light is flashing will be cancelled.
Operation button	Pressing this button during milling will pause or restart the machine. Pressing and holding this button during milling will abort milling or clear some errors. Pressing this button in standby will rotate the rotary axis position 180 degrees. The button will flash during initialization, spindle rotation. The button will illuminate under any other status while the power is on.

Statuses Indicated by Status Light Color



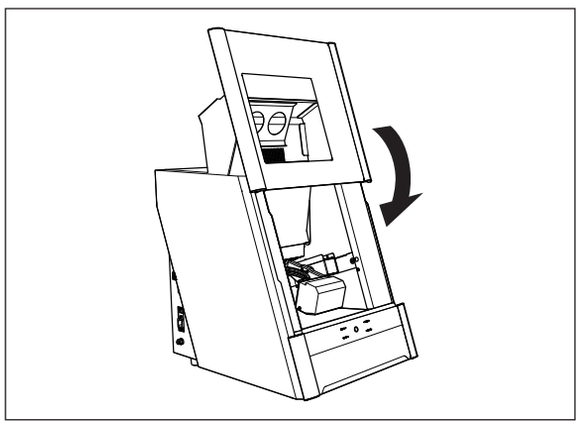
Blue	The machine is in standby or initializing. The light will also turn off if no operation is performed for 30 seconds when in standby, causing the machine to sleep.
White	When lit white, milling is being performed or has been paused, or the front cover is open. Also flashes when the dust collector is in standby.
Yellow	When lit yellow, an error has occurred, and the machine has been paused. Check the error details shown on VPanel. Press the operation button on the built-in panel to resume milling.
Red	When lit or flashing red, an error has occurred and milling has been stopped. Milling cannot be resumed. Check the error details shown on VPanel. When lit red, pressing and holding the operation button on the built-in panel will abort milling and return the machine to the ready status. When flashing, turn off the power once and start up the machine again.
Off	The light turns off when the power is turned off or the machine in the sleep state.

Switching the Power On or Off

Switching the Power On

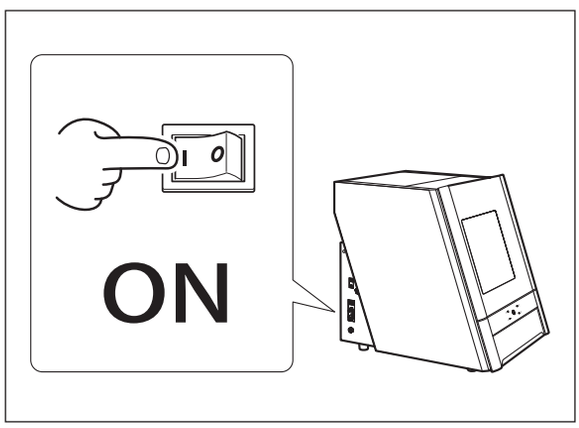
Procedure

❶



Close the front cover.

❷



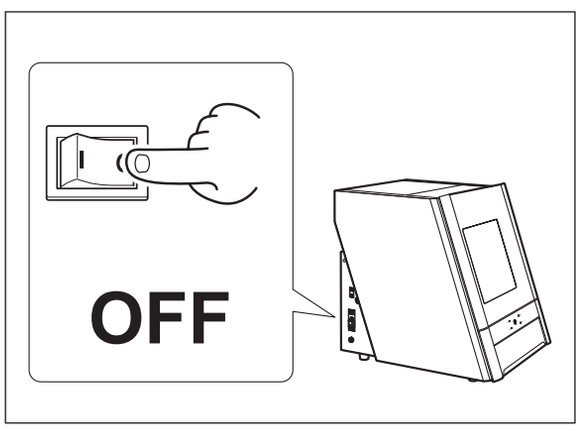
Switch on the machine's power switch.
The machine starts initialization. When the status light stops flashing and remains steadily lit, initialization is complete.

Notice

Do not open the front cover during milling.

Switching the Power Off

Procedure



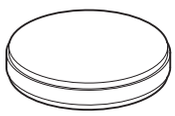
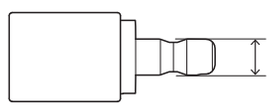
Switch off the machine's power switch.

Preparing for Milling

Preparing a Workpiece (Usable Workpieces)

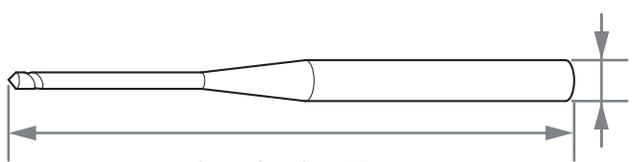
Workpiece Materials

Zirconia, Wax, PMMA, Composite resin, PEEK, Gypsum

Type		Size (Unit: mm)
Disk type (with step)		Step section: 98.5 mm (diameter), 10 mm (height) Body section: 95 mm (diameter), 60 mm (height max.)
Pin type		Pin diameter: 6 mm  Ø5.9 ±0.02

Preparing a Milling Bur (Usable Milling Burs)

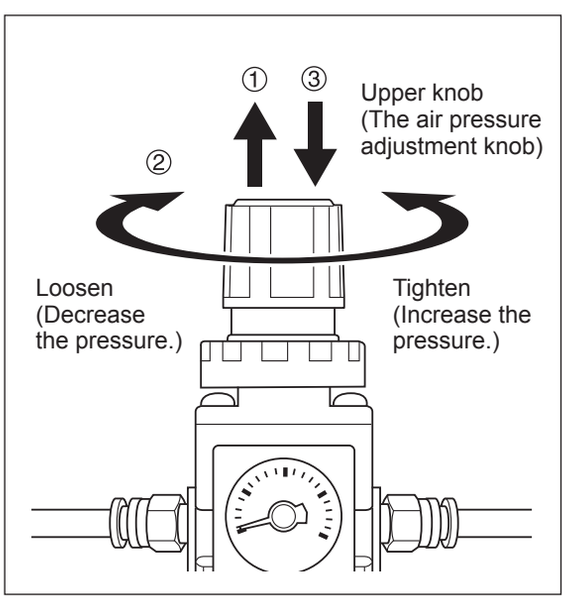
The figure below shows the size of usable milling burs.



*The shape of the milling bur is merely an example. Select the milling bur that matches the application. Contact your authorized Roland DG Corporation dealer to purchase milling burs.

Preparing Compressed Air (Setting the Regulator)

⚠WARNING **Turn the air pressure adjustment knob slowly and carefully.**
Otherwise, the machine may move suddenly, posing a risk of injury.



① Pull up on the upper knob (The air pressure adjustment knob).
② Slowly turn the upper knob.
③ Push down on the upper knob.

When supply of air starts, the air starts to flow and the pressure drops. When the pressure has dropped, adjust the regulator to have an appropriate value again. (Air is supplied when the spindle rotates or when the tool is replaced.)

Recommended Set Pressure

0.05 MPa	0.2 MPa
Zirconia Wax Composite resin Gypsum	PMMA PEEK

IMPORTANT!
Be sure to configure the regulator to 0.2 MPa or lower. Anything higher may result in a malfunction.

STEP 1: Mounting the Clamp to the Workpiece

The mounting method differs depending on the workpiece type and size.

☞ P. 18"Preparing a Workpiece (Usable Workpieces)"

For Disk Workpieces

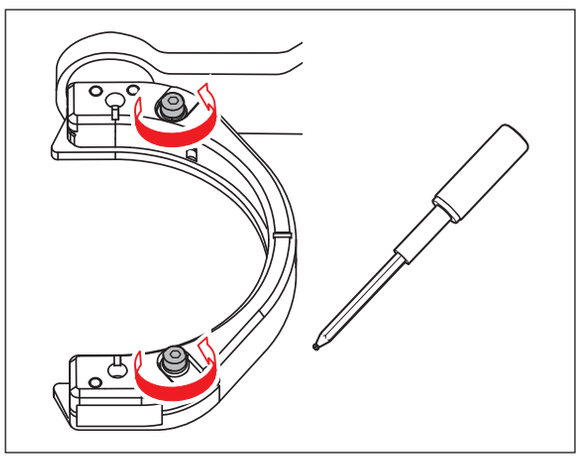
☞ P. 20"For Pin-Type Workpieces"

1 **① Close the front cover and turn on the power switch.**

☞ P. 17"Switching the Power On"

② Once initialization completes, open the front cover.

2

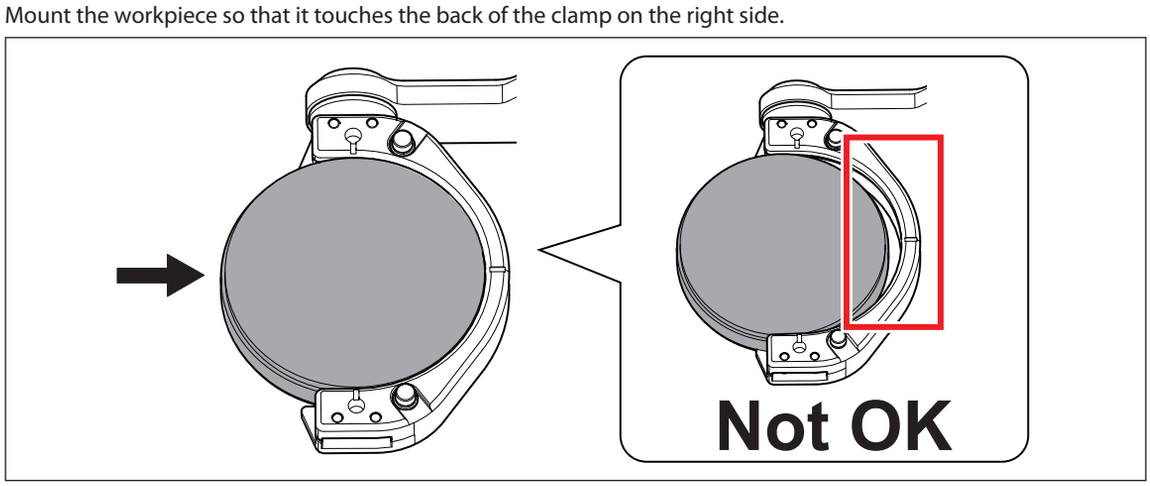


Loosen the screws about 3 turns using a torque driver. (2 locations)

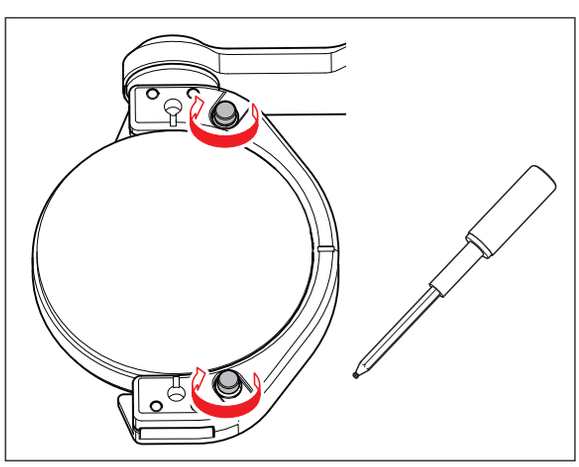
Use the included spare screws when a screw is lost or worn.

3 **Mount the workpiece in the clamp.**

Mount the workpiece so that it touches the back of the clamp on the right side.



4



① Loosely tighten the screws. (2 locations)

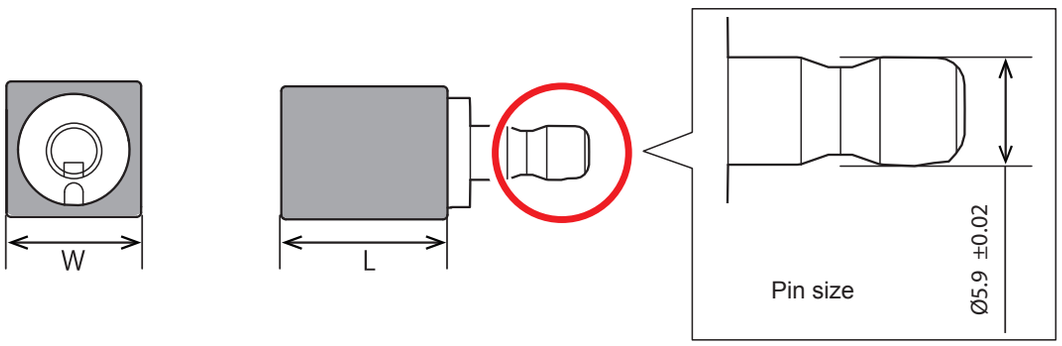
Alternately tighten the screws in two locations little by little.

② Firmly tighten the screws using a torque screwdriver.

Notice

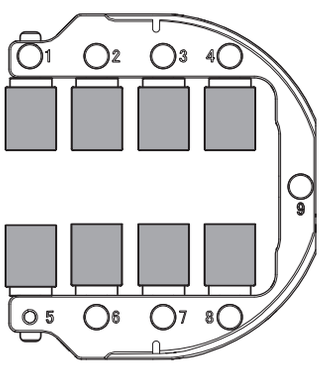
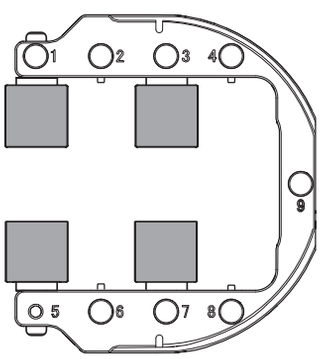
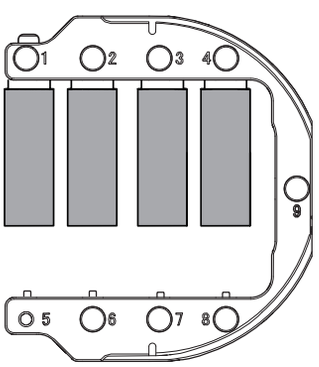
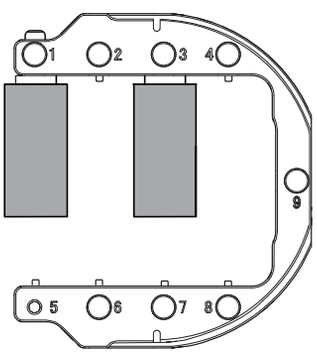
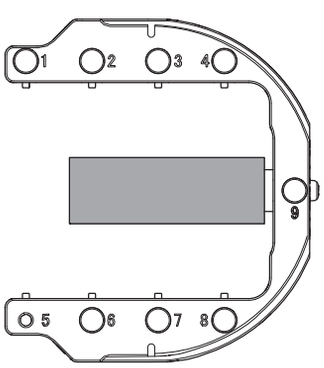
Tightening only one of the screws at a time may cause the workpiece to break or the screws to become loosened during milling.

For Pin-Type Workpieces



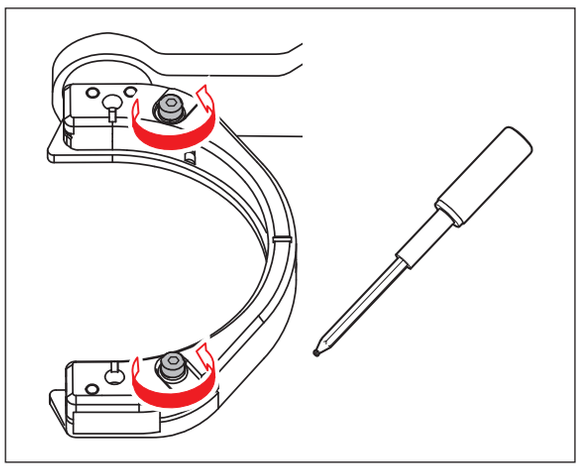
Mounting layout examples

The figure shows examples of the maximum number of workpieces that can be attached according to size, and their layout. Workpiece sizes are limited by the number of workpieces mounted in the machine, and the number of mountable workpieces is limited by the size of the workpieces mounted in the machine.

	W ≦ 15 mm	15mm < W ≦ 22 mm
L ≦ 20mm		
20mm < L ≦ 50mm		
50mm < L		

Procedure

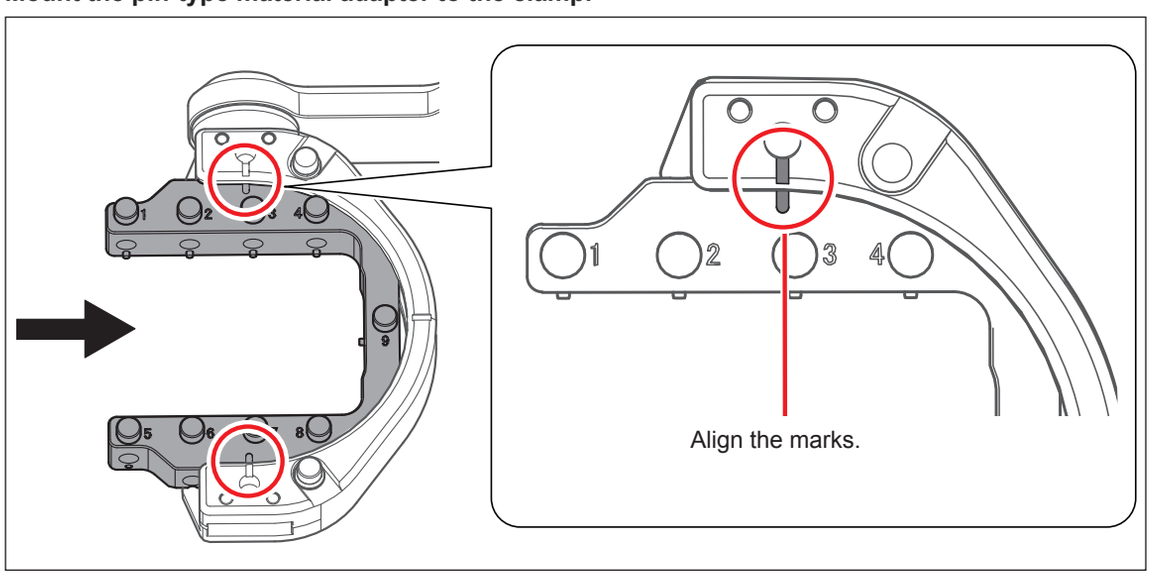
1. ① **Close the front cover and turn on the power switch.**
   ② **Once initialization completes, open the front cover.**

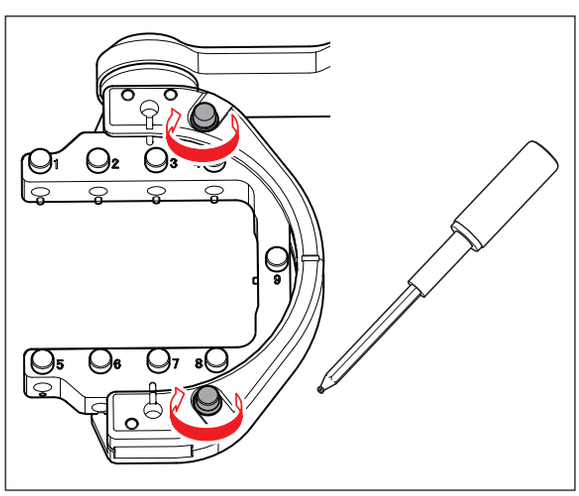
2. 

   Loosen the screws about 3 turns using a torque driver. (2 locations)

   Use the included spare screws when a screw is lost or worn.

3. **Mount the pin-type material adapter to the clamp.**

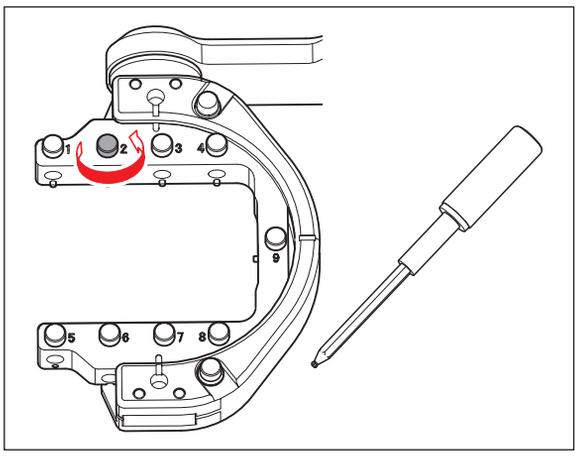
   

4. 

   ① **Loosely tighten the screws. (2 locations)**
   Alternately tighten the screws in two locations little by little.
   ② **Firmly tighten the screws using a torque screwdriver.**

   Notice

   Tightening the screws without first lightly tightening them may cause the adapter to become tilted or the screws to become loose during milling.

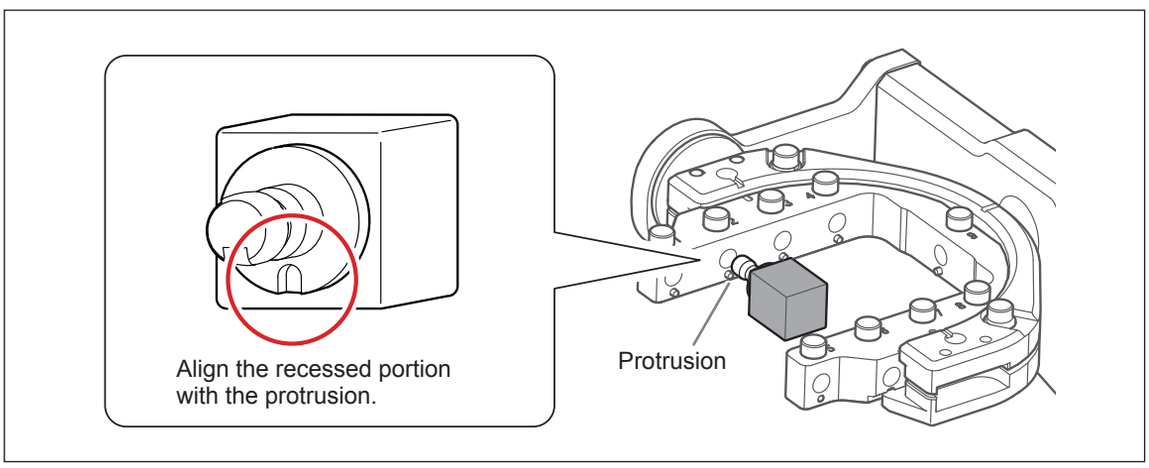
5 

Use a torque driver to loosen the screws holding the workpiece in position.

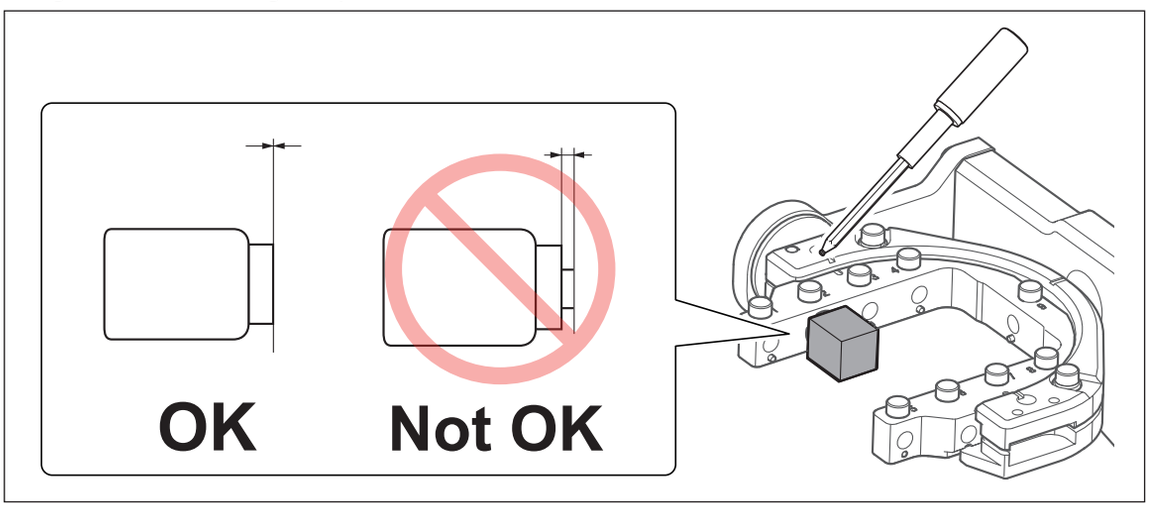
Use the included spare screws when a screw is lost or worn.

6 **Mount the workpiece on the pin-type material adapter.**

① Make sure the recessed portion of the workpiece is oriented downward, align the protrusion for pin-type material adapter, and insert the workpiece all the way in.



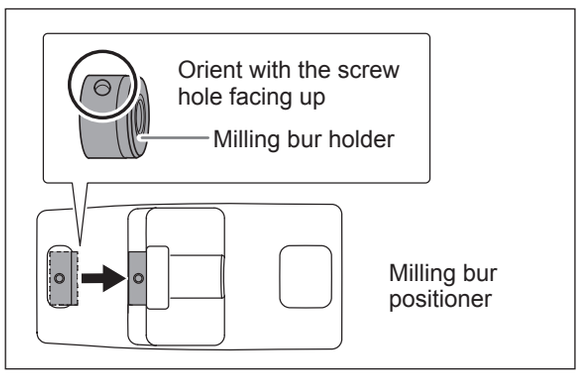
② Tighten the screws using a torque driver.



STEP 2: Attaching the Milling Bur

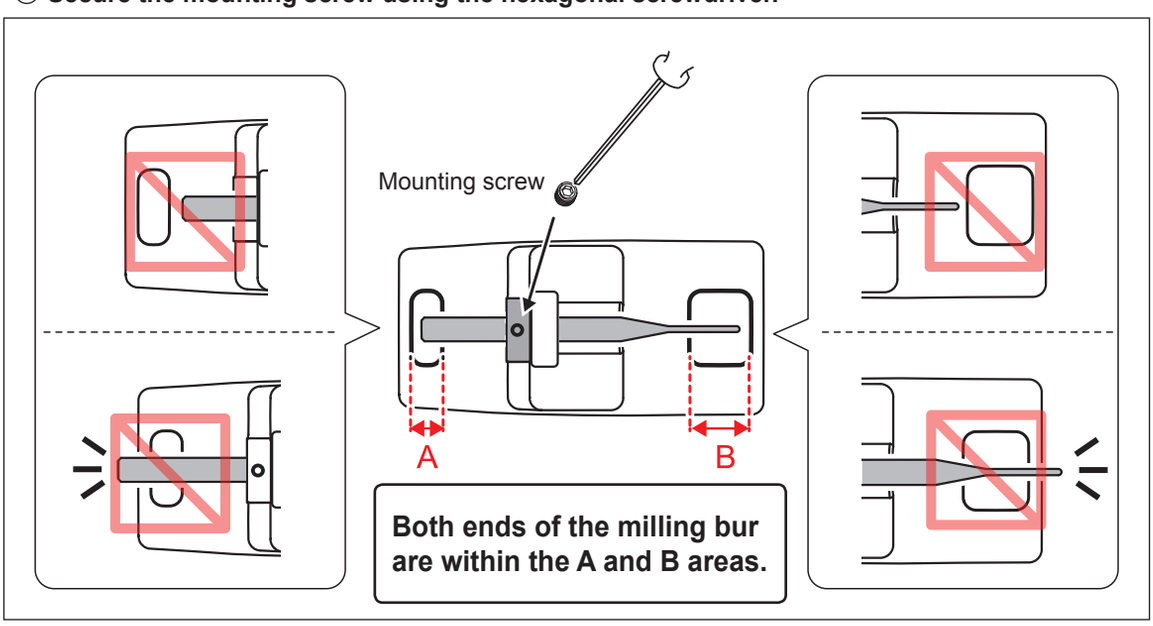
Procedure

❶

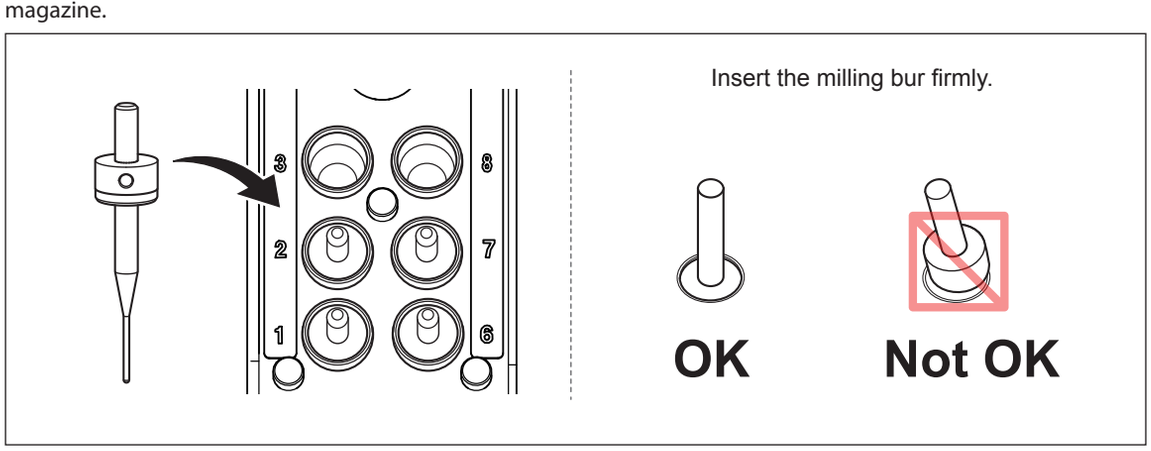


Attach the milling bur holder to the milling bur positioner.
Insert the milling bur holder oriented as in the figure, and attach it so that it reaches the back of the hole.

❷ ① **Slide the milling bur through the milling bur holder, and determine the proper position.**
Insert the milling bur as in the figure, and make sure that both ends are within the areas of the milling bur positioner holes.
② **Secure the mounting screw using the hexagonal screwdriver.**



❸ **Set the milling bur in the ATC magazine.**
Insert firmly as far as possible. Up to 10 milling burs can be set. The stocker numbers are shown on the surface of the magazine.



STEP 3: Outputting Milling Data

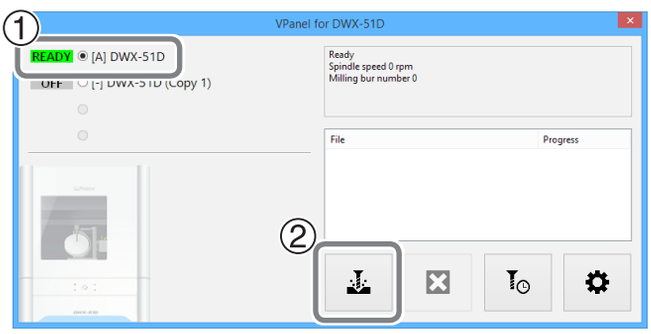
* You can also use commercial CAM software to output milling data. For information on compatible CAM software, contact your authorized Roland DG Corporation dealer.

⚠WARNING **Be sure to turn on the dust collector.**
Milling Waste and workpieces are flammable and toxic.

⚠WARNING **Never use a vacuum cleaner to clean up milling Waste.**
Picking up fine cuttings using an ordinary vacuum cleaner may result in a fire or explosion.

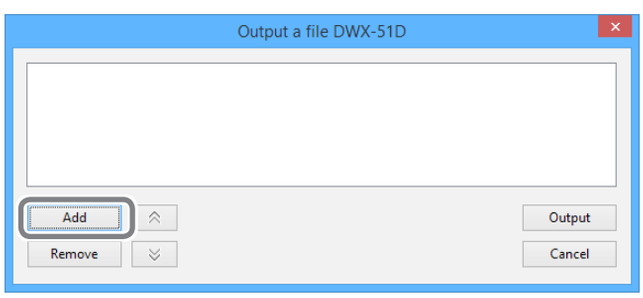
Procedure

❶



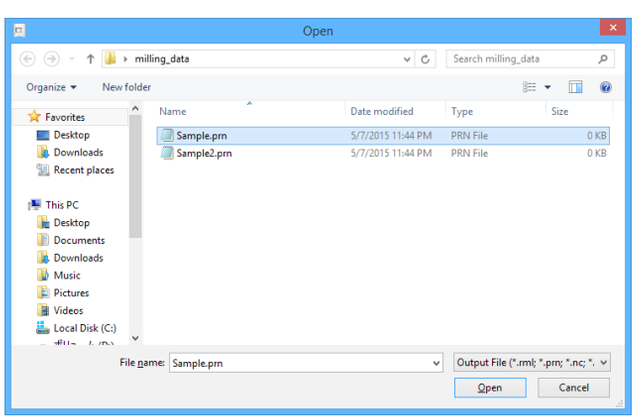
① In the top window of VPanel, select the machine to output.
Click the radio button to the left of the name of the machine to operate.
② Click .
The "Output a file" window will appear.

❷



Click "Add."
The "Open" window will appear.

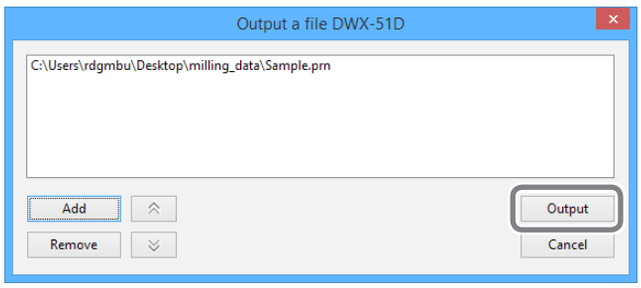
❸



Select the milling data, and click "Open."
The selected milling data is displayed in the data list of the "Output a file" window.
Repeat steps ❷ to ❸ to output the milling data continuously.

❹ **Verify that the workpiece and the milling bur are set in the machine.**

☞ P. 23"STEP 2: Attaching the Milling Bur"

❺ 

Click "Output."

Tips!

Changing the data list order

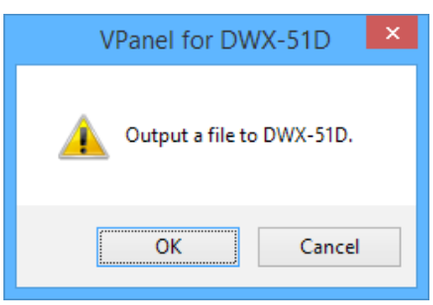
You can change the output order by selecting the milling data in the data list and clicking ⌃⌃ or ⌄⌄.
(The milling data is output from the top of the data list.)

Removing milling data from the data list

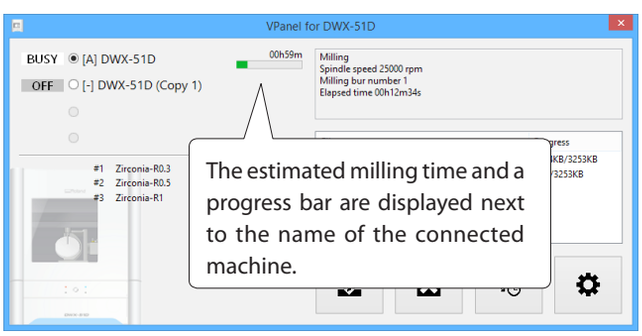
To remove milling data from the output list, select the milling data in the data list and click "Remove."

Adding milling data by dragging and dropping

You can add milling data by dragging and dropping data on the window displayed in steps ❶ and ❷.

❻ 

Click [OK].



The output milling data is displayed in the output list of the top window, and milling starts.
A sound will be emitted when milling has finished.

Notice

Do not open the front cover during milling. To ensure safety, opening the front cover while data is being output will cause an emergency stop to occur.

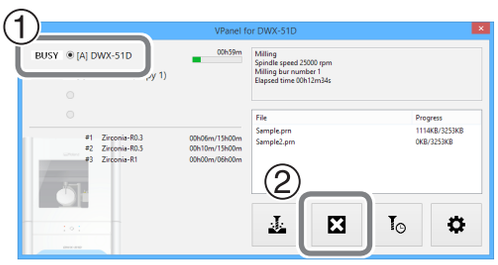
☞ P. 54"Responding to Error Messages"

❼ **Open the front cover after the status light turns blue.**

Aborting Output

Procedure

❶



① In the top window of VPanel, select the machine for which output will be aborted.
② Click ⊠.

❷

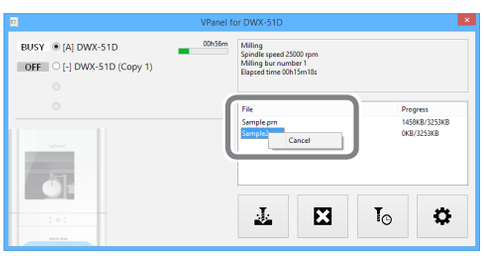
The message shown in the figure will be displayed.
To abort output, click [OK].
Click [Cancel] to not abort the output.

Removing Milling Data in Standby from the Output List

Procedure

❶ **In the top window of VPanel, select the machine to edit from the output list.**

❷



Right-click the mouse on the milling data to remove from the output list, and click [Cancel].
Only milling data in standby can be removed (milling data in the second or following positions from the top of the output list).

3. Maintenance

Maintenance Precautions 28

Maintenance Precautions 28

Daily Maintenance 29

Cleaning after Milling Finishes 29

Periodic Maintenance 31

Situations Requiring Maintenance 31

Replacing Consumable Parts 31

Running In the Spindle (Warm-up) 32

Correcting the Milling Machine 33

Care and Storage of Detection Pin and Automatic Correction Jig . 35

Retightening the Collet 36

Care of the Regulator 38

Maintenance Precautions

Maintenance Precautions

⚠WARNING **Never use a pneumatic blower.**
This machine is not compatible with a pneumatic blower. Milling waste may get inside the machine and cause fire or electrical shock.

⚠WARNING **Never use a solvent such as gasoline, alcohol, or thinner to perform cleaning.**
Doing so may cause a fire.

⚠WARNING **Never use a vacuum cleaner to clean up milling waste.**
Picking up fine cuttings using an ordinary vacuum cleaner may result in a fire or explosion.

⚠WARNING **Do not touch the spindle unit or the surrounding areas immediately after milling has ended.**
Doing so may result in burns.

⚠CAUTION **Be careful around the milling tool.**
The milling tool is sharp. Broken milling tools are also dangerous. To avoid injury,exercise caution.

- This machine is a precision device. Carry out daily care and maintenance.
- Carefully clean away milling waste. Operating the machine with milling waste present may cause a malfunction.
- Never install in an environment where silicone substances (oil, grease, spray, etc.) are present. Doing so may cause poor switch contact or ionizer damage.
- Never lubricate any location not specified in this manual.

Cleaning after Milling Finishes

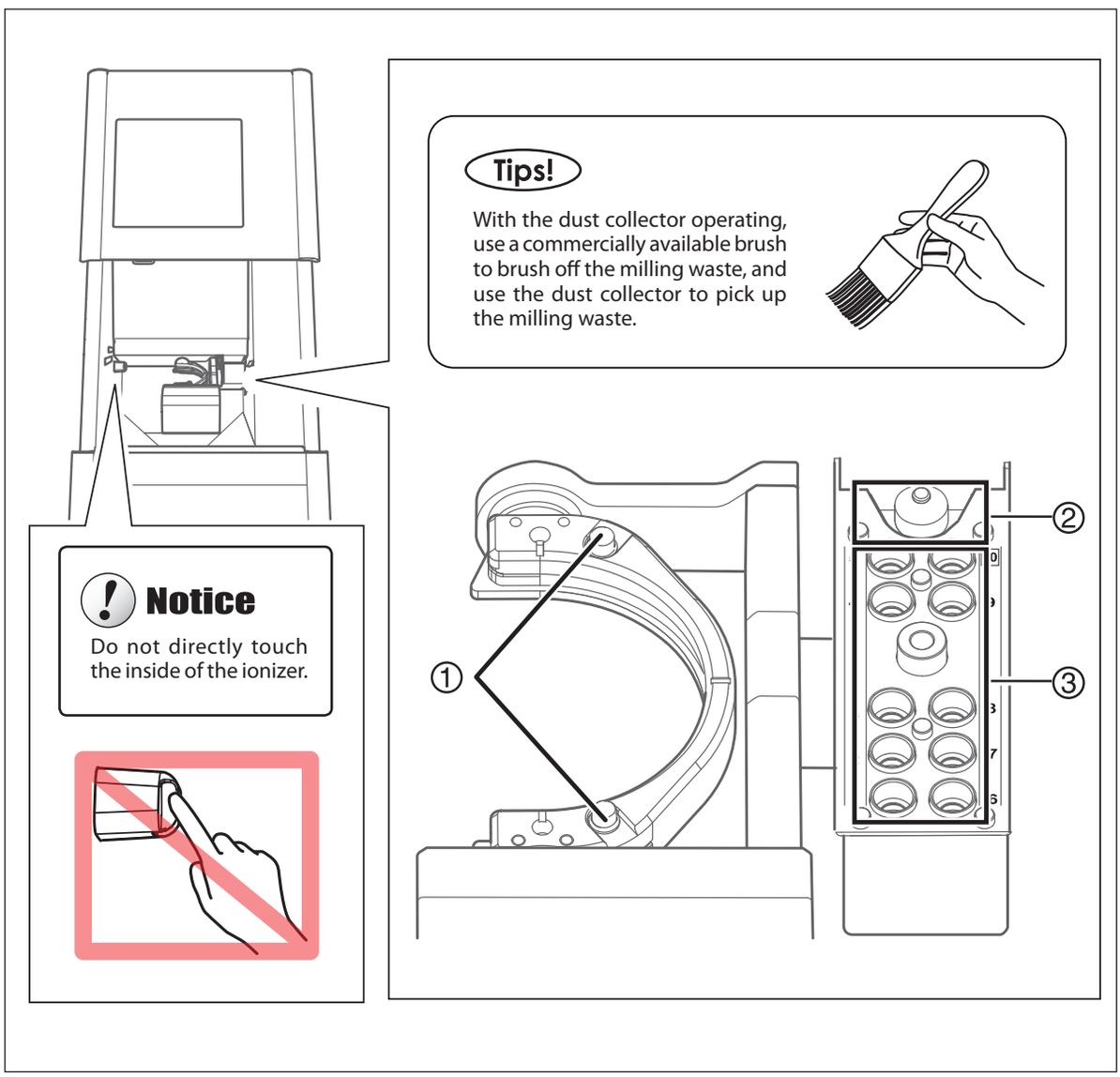
After milling finishes, clean the milling area using a commercially available brush or the dust collector. Also clean the milling bur.

Procedure

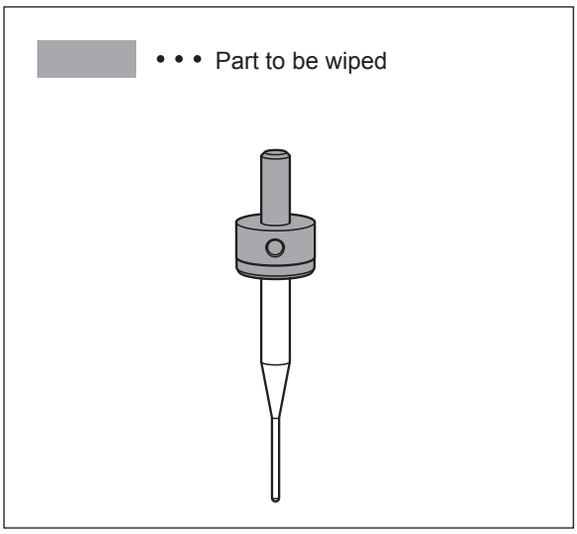
1 **Clean the inside of machine.**

Clean off any milling waste around areas ① to ③ in the following figure, as milling waste in these areas may affect the milling results. Use the Cleaning tool dialog box to clean the rotary axis unit.

☞ P. 14""Cleaning tool" Dialog Box"


Tips!
With the dust collector operating, use a commercially available brush to brush off the milling waste, and use the dust collector to pick up the milling waste.
Notice
Do not directly touch the inside of the ionizer.
①
②
③

❷



Use the included cloth for care to wipe off any dirt from the portion indicated in the figure.

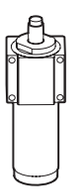
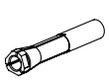
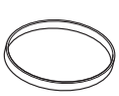
Periodic Maintenance

Situations Requiring Maintenance

When installing the machine When replacing the spindle unit	P. 32"Running In the Spindle (Warm-up)" P. 33"Correcting the Milling Machine"
When the machine has not been used for a prolonged period Before you start using the machine in low room temperature	P. 32"Running In the Spindle (Warm-up)"
When installing the machine in a different location When the milling position is misaligned When symptoms such as a hole in the Z direction occurs	P. 33"Correcting the Milling Machine"
Once a month When the work time of the spindle exceeds 200 hours	P. 36"Retightening the Collet"
When water or dust accumulates on the regulator	P. 38"Care of the Regulator"

Replacing Consumable Parts

A replacement manual is included with purchased products. For information on how to perform replacement, refer to the replacement instruction manual included with the part.

Part name	Replacement time / Guideline
 Spindle unit	**When the total work time of the spindle exceeds 2,000 hours (with slight variation depending on the work situation).** You can use VPanel to view the total work time of the spindle. ☞ P. 9""Maintenance" Tab" The replacement spindle unit comes with a collet and belt.
 Collet	**If the collet is deformed** If an overload error or other error occurs, the collet may have become deformed.
 Spindle belt	**If the spindle belt is worn**

Running In the Spindle (Warm-up)

To stabilize the rotation of the spindle, a spindle run-in (warm-up) may be needed.

Cases Where You Need to Perform This Task

- When you finish installing the machine
- When the spindle unit is replaced
- When the machine is not used for a prolonged period
- Before you start using the machine in low room temperature

Procedure

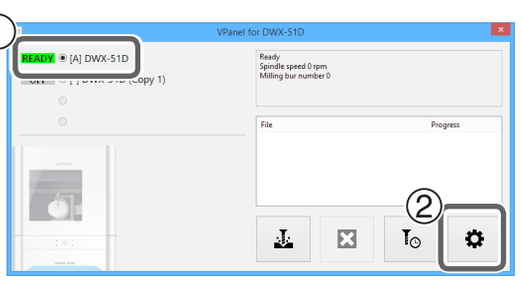
1 Close the front cover and turn on the power.

2

Show VPanel.

☞ P. 5"Displaying VPanel"

3



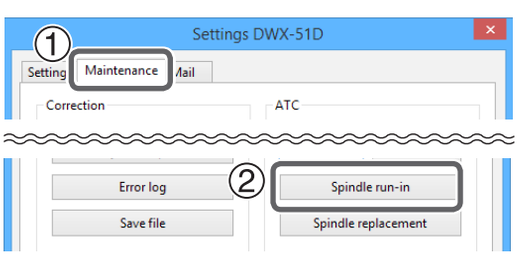
① In the top window of VPanel, select the machine to operate.

Click the radio button to the left of the name of the machine to operate.

② Click ⚙.

The [Settings] screen will appear.

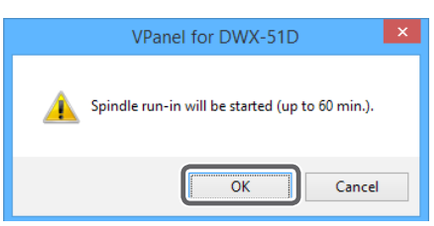
4



① Click the [Maintenance] tab.

② Click [Spindle run-in].

5



Click [OK].

Spindle run-in starts.

"Spindle run-in is completed" is displayed.

Correcting the Milling Machine

The accuracy of the milling machine may vary if it is used for a long period of time or the surrounding environment changes. With automatic correction, the ATC magazine and the rotary axis will be in the right position.

Cases Where You Need to Perform this Task

- When you finish installing the machine
- When you finish moving the machine
- When the cutting position is misaligned
- When there is a level difference or a hole is created in the Z direction, etc. in cutting result

Required Items

·Detection pin · Automatic correction jig ·Torque driver · Cloth for care

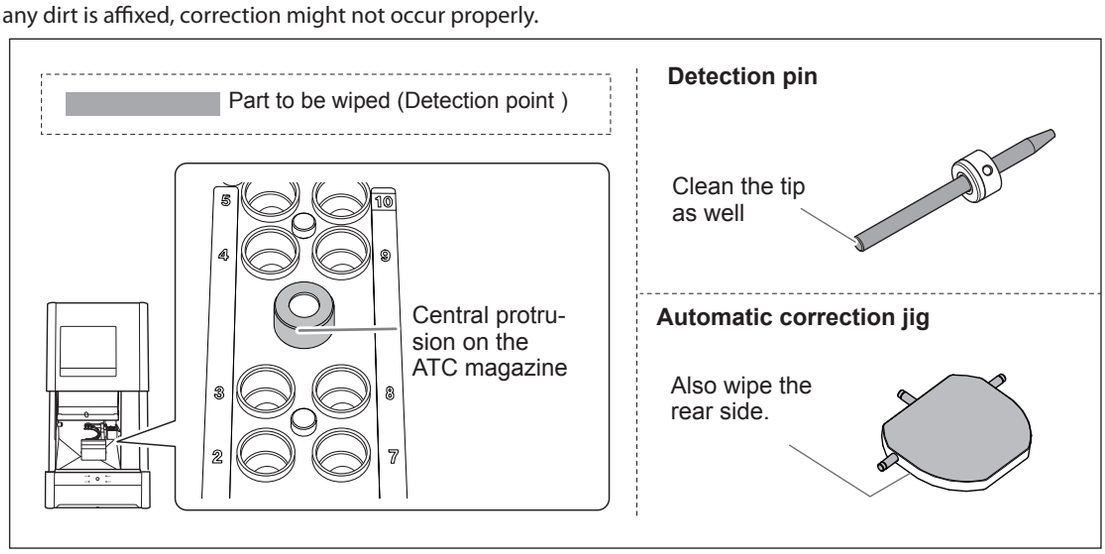
1. Install the detection pin.

1 Clean off any milling waste around the clamp.

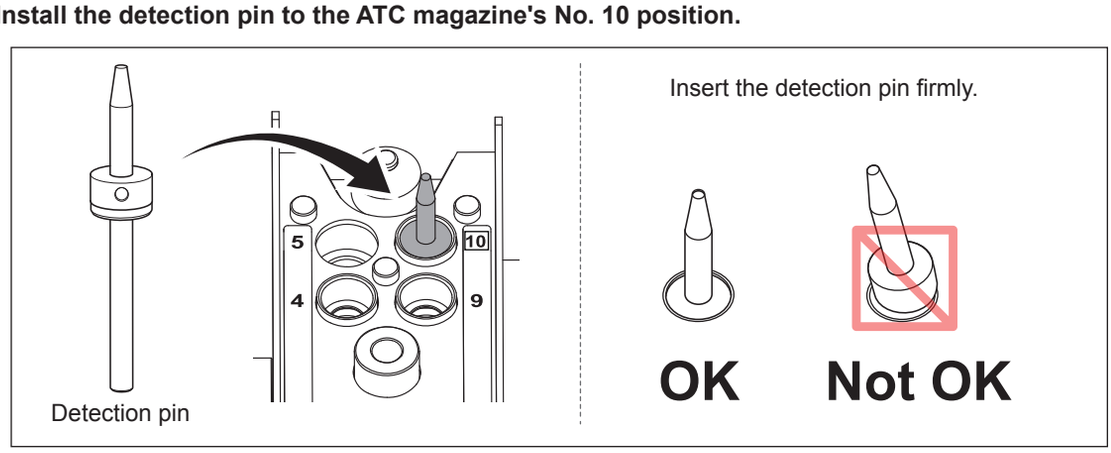
☞ P. 29"Cleaning after Milling Finishes"

2 Use the supplied cloth for care to clean the detection pin, automatic correction jig, and central protrusion on the ATC magazine.

If any dirt is affixed, correction might not occur properly.

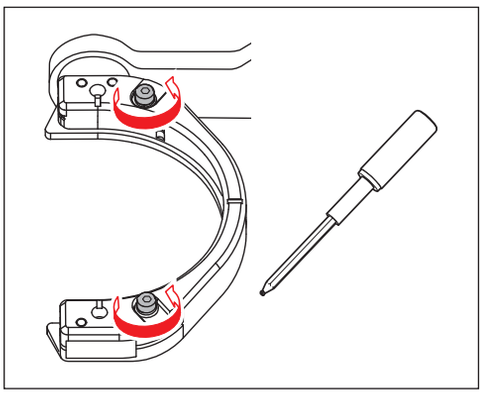


3 Install the detection pin to the ATC magazine's No. 10 position.



2. Attach the automatic correction jig.

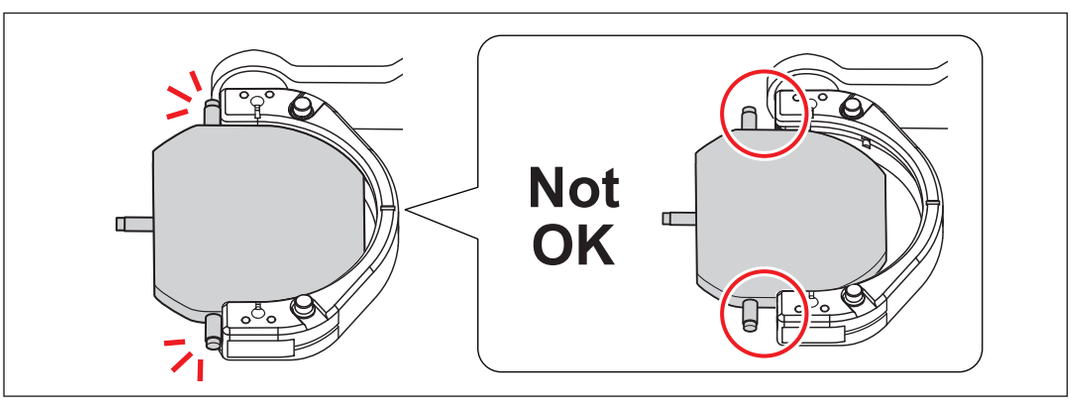
❶



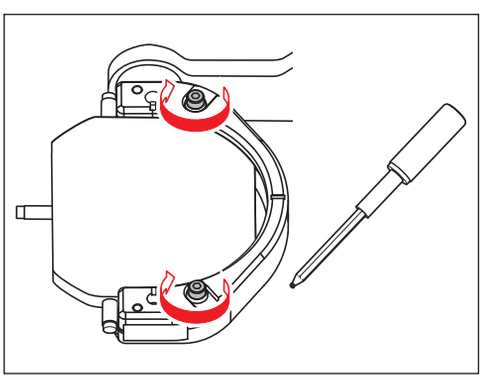
Loosen the screws about 3 turns using a torque driver. (2 locations)

❷ **Attach the automatic correction jig.**

Push in until the protrusion comes into contact with the clamp. The jig can be attached with either surface facing up.



❸



① **Loosely tighten using a torque driver. (2 locations)**

Alternately tighten the screws in two locations little by little.

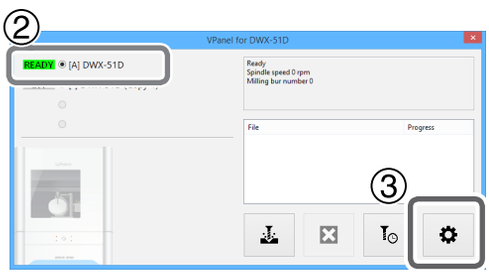
② **Fully tighten the screws.**

> **Notice**
>
> Tightening the screws without first lightly tightening them may cause the automatic correction jig to become tilted.

❹ **Close the front cover.**

3. Perform automatic correction.

❶



① **Show VPanel.**

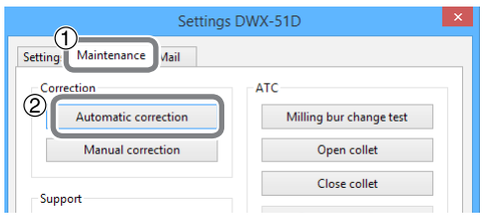
☞ P. 5"Displaying VPanel"

② **In the top window of VPanel, select the machine to operate.**

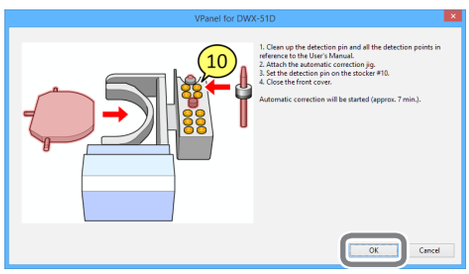
Click the radio button to the left of the name of the machine to operate.

③ **Click ⚙.**

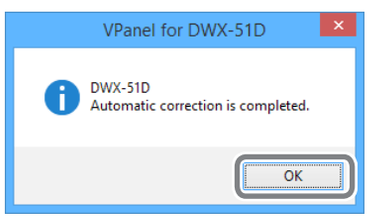
The [Settings] screen will appear.

❷ 

① Click the [Maintenance] tab.
② Click [Automatic correction].

❸ 
VPanel for DWX-51D
10
1. Clean up the detection pin and all the detection points in reference to the User's Manual.
2. Attach the automatic correction jig.
3. Set the detection pin on the stocker #10.
4. Close the front cover.
Automatic correction will be started (approx. 7 min.).
OK
Cancel

① Make sure that the work displayed on the screen is complete.
② Click [OK].
Automatic correction starts.

❹ 

Automatic correction is complete once the screen in the figure is displayed.
Click [OK].

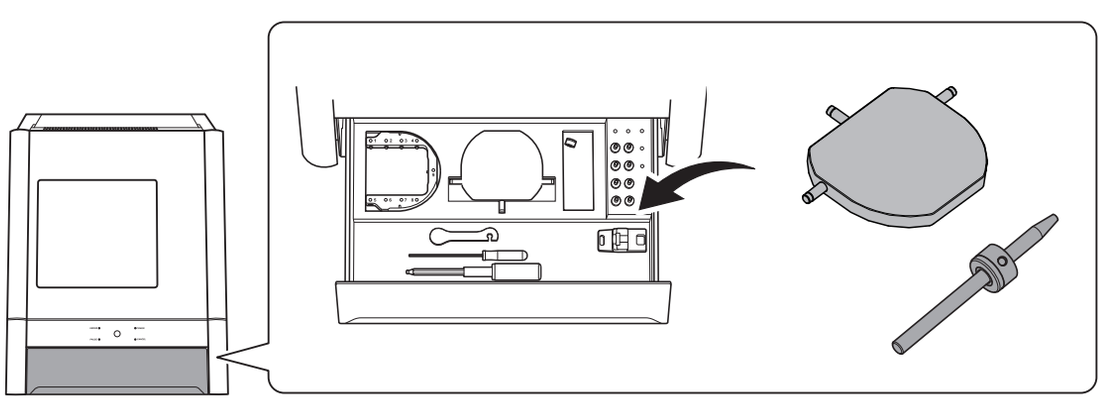
❺ **Once automatic correction is complete, remove the detection pin and the automatic correction jig.**
Turn the screws securing the automatic correction jig about 2 times to remove them. Store the detection pin and the automatic correction jig in the storage compartment.

Care and Storage of Detection Pin and Automatic Correction Jig

For correction, use the detection pin and the automatic correction jig. The presence of rust, scratches, or grime on the detection pin or the automatic correction jig makes accurate detection impossible, which in turn may make it impossible to perform milling as intended, and may even damage the machine.

Care and Storage

- Before use, wipe clean using a dry clean cloth (included with product), and make sure that no dust, rust, or scratches are found.
- Store the detection pin and the automatic correction jig in the storage compartment.



Retightening the Collet

Continuous cutting will cause the collet to become loose, making it easy for the milling bur to come off. Periodically retighten the collet.

Recommended Interval for Procedure

➢ Once a month, or when the total work time of the spindle exceeds 200 hours (with slight variation depending on the work situation).

☞ P. 9""Maintenance" Tab"

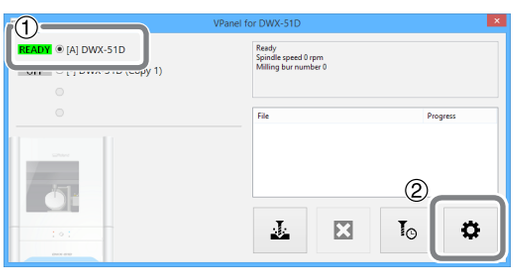
Required Items

• Detection pin **• Spanner**

Procedure

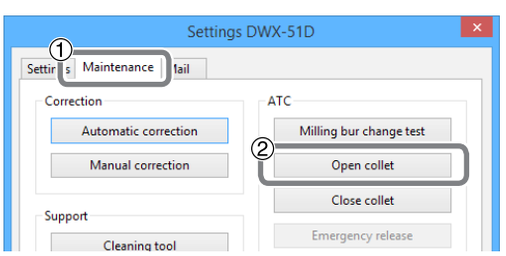
❶ **Remove any mounted workpiece, pin-type material adapter, or automatic correction jig.**

❷



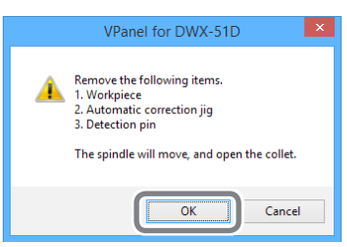
① In the top window of VPanel, select the machine with the collet that will be retightened.
Click the radio button to the left of the name of the machine to operate.
② Click ⚙.

❸



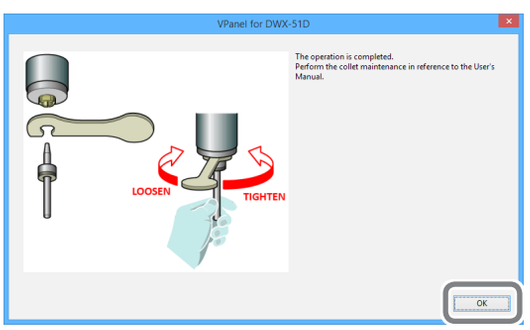
① Click the [Maintenance] tab.
② Click "Open collet."

❹



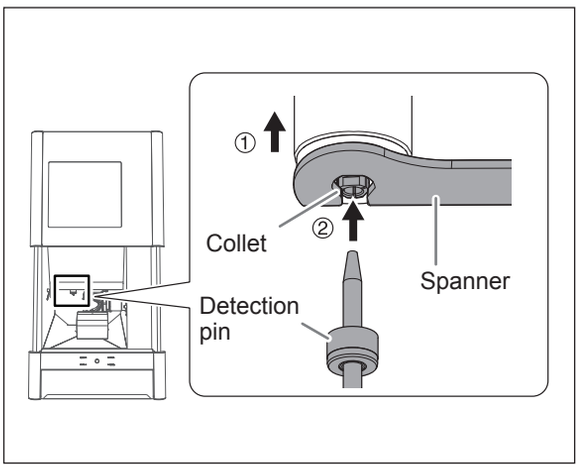
Click [OK].
Moving the spindle unit will open the collet.

❺



The window shown in the figure appears.
Click [OK].

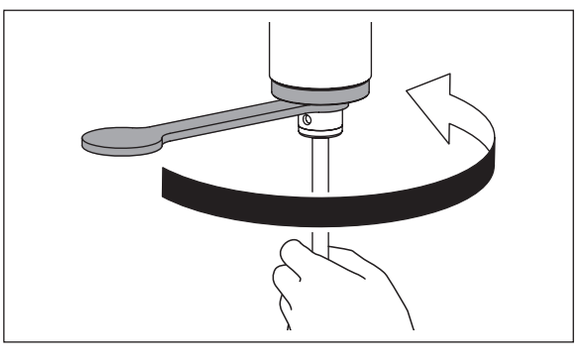
6



① Fit the spanner onto the collet.
② Insert the detection pin into the collet.
If the detection pin cannot be inserted, repeat the operation in 3.

Notice
Use the included spanner and keep the detection pin inserted. If the detection pin is not inserted, the collet may become deformed, resulting in lower milling accuracy.

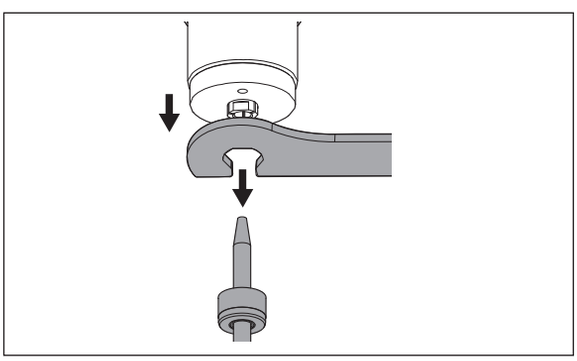
7



Tighten the collet with the spanner while holding the detection pin.

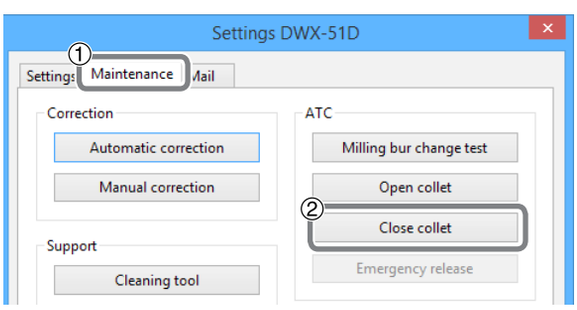
Tips!
Tightening is sufficient once the spanner and the tip of the spindle unit (shaded portion in the figure to the left) begin to rotate together.

8

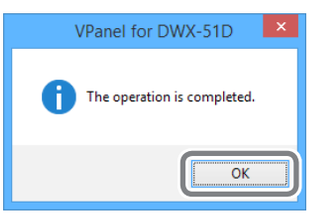


Remove the detection pin and the spanner, and close the front cover.

9

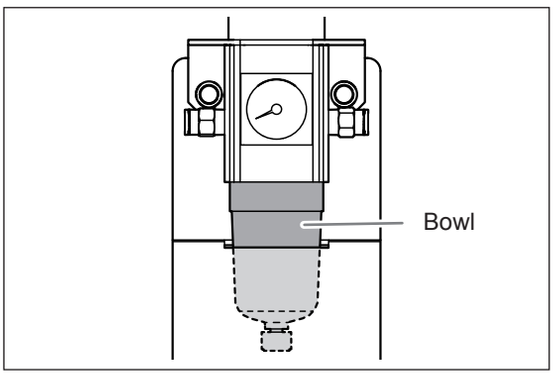


① Click the [Maintenance] tab.
② Click "Close collet."
The procedure is complete if the spindle unit moves and "The operation was completed." is displayed.



The window shown in the figure appears.
Click [OK].

Care of the Regulator



The regulator is equipped with a filter that becomes filled with drainage (moisture and dust) over time. Periodically empty the drain. Also, if the inside of the bowl becomes dirty, remove and wash the bowl.

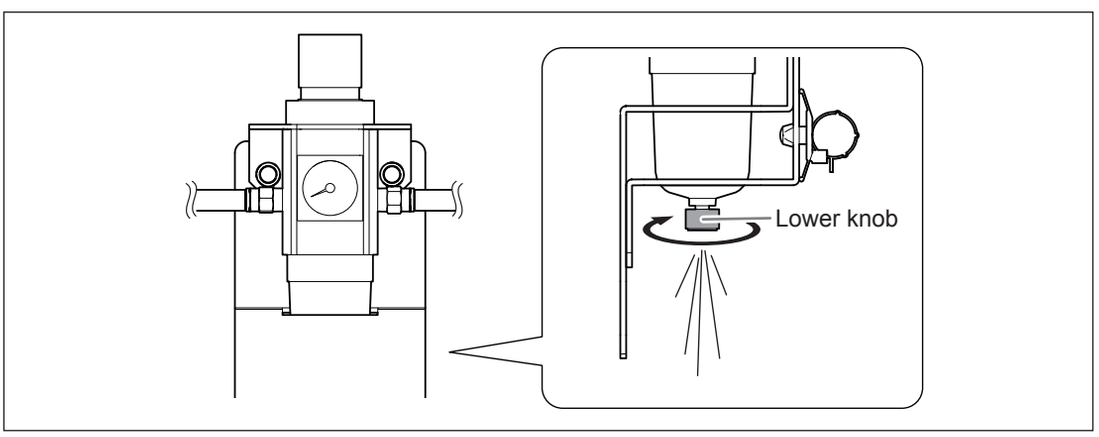
Situations Requiring This Work

- **When drainage builds up**
- **When the bowl becomes dirty**

Emptying the Drain

Procedure

❶ **Loosen the lower knob little by little.**
Material may spray out of the drain at this time. Use a cloth or the like to catch the spray and keep it from scattering.



❷ **After the drain empties, retighten the lower knob.**

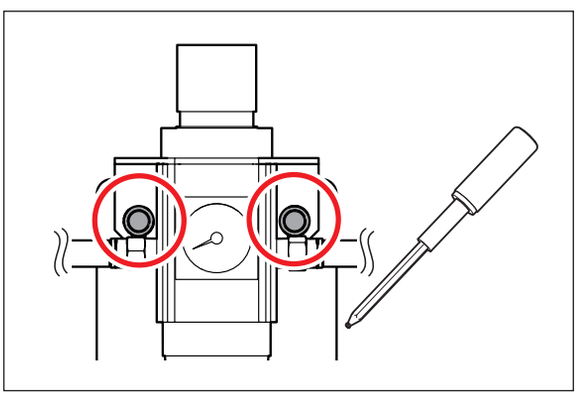
Cleaning the Bowl

⚠WARNING **Be sure to bleed off the air pressure before removing the regulator bowl.**
Failure to do so may result in a rupture or components flying off.

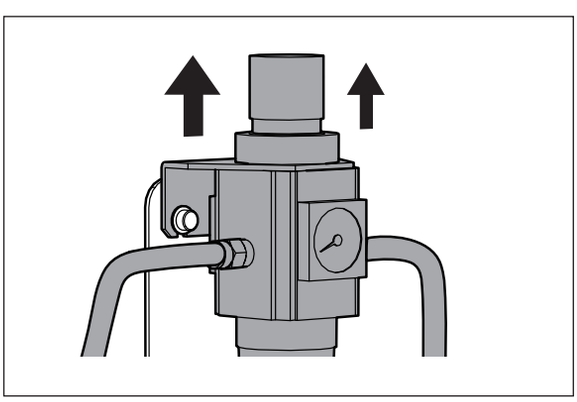
⚠WARNING **Before removing or attaching the regulator and before performing maintenance, make sure that the bowl is securely attached.**
If the bowl is not properly attached, it may come flying off when compressed air is supplied.

Procedure

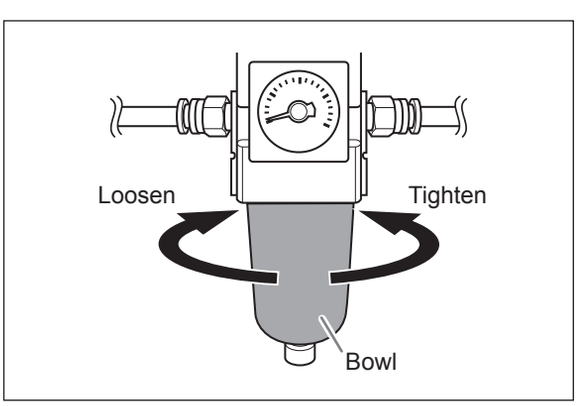
1. **Stop the supply of compressed air.**

2. 

   Loosen the screws about 3 turns in the locations shown in the figure to the left using a torque driver. (2 locations)

3. 

   Remove the regulator.

4. 

   Remove the bowl from the regulator.
   Wash the bowl using a neutral detergent.

   ⚠WARNING

   Clean the regulator bowl using a neutral detergent.Never use solvents such as gasoline, alcohol, or thinner.
   Using solvents may degrade the bowl and may result in a rupture.

5. **After making sure that the bowl is completely dry, retighten the bowl.**

6. **Attach the regulator to the machine.**

4. Troubleshooting

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Machine Trouble

Initialization is Not Performed or Initialization Fails

Is the front cover open?	Keep the front cover closed during startup. For safety, initialization is not performed when the cover is open at startup.	-
Is the milling bur caught on anything?	The milling bur attached to the spindle unit may fail to perform initialization if it is caught on the workpiece or rotary axis unit. Try to detach the milling bur using the emergency release function in VPanel.	P. 9
Is anything caught on the spindle unit or rotary axis unit?	Open the maintenance cover, and make sure that no workpiece or milling waste is caught.	-

The Operation Button Does Not Respond

Is the front cover open?	This machine restricts some operations when the front cover is open. Close the cover.	-
Are you wearing gloves?	The operation button will not respond if you are wearing gloves. Operate the button with a bare hand.	-

VPanel Does Not Recognize the Machine

Is the cable connected?	Make sure that the cables are connected. Refer to "Setup Guide" ("Connecting the Cables") to perform the work.	-
Is the driver installed correctly?	If the connection to the computer is not made in the procedure described, the driver may fail to install correctly. VPanel will not function normally if the driver is not configured correctly. Check again to ensure that the connection was made using the correct procedure.	P. 48
Did you verify the connection procedure when connecting more than one machine?	There is a possibility that the connection procedure was performed incorrectly. Make sure that connections were performed correctly. Refer to "Setup Guide" ("Connecting Multiple Units") to perform the work.	-
Was the machine ID changed?	If the machine's ID has been changed, restart the machine.	P. 5

No Data is Being Output to the Machine, or the Machine will Not Operate Even Though Data is Being Output

Is the front cover open?	If the front cover is open, the machine will not start milling even if milling data is being received. Close all of the covers and press the operation button to start milling.	-
Does VPanel recognize the machine?	Verify that a message other than "Offline ("OFF" display) is shown on VPanel.	-
If multiple machines are connected, is the correct machine selected?	Select the machine to output milling data to on the VPanel screen.	-
Is operation paused?	Operation is paused if the PAUSE LED is lit. When the machine is paused, milling stops and some operations are restricted. Quickly pressing the operation button of the machine will cancel the pause. Pressing and holding on the operation button will abort milling.	-
Is initialization or a data cancel in progress?	Milling data received during initialization or a data cancel will be cancelled. Make sure to output milling data after confirming that the machine is in the standby status.	-
Is the milling data correct?	Check the milling data.	-
Has an error occurred?	The ERROR LED will flash if an error occurs. A description of the error is displayed in VPanel.	P. 54

The Computer Shuts Down when Connecting Multiple Machines

Are machines with the same ID connected to the computer at the same time?	Connecting more than one machine with the same ID to a computer at the same time may cause the computer to shut down. If the computer shuts down, turn off the power of all connected machines, and then disconnect the USB cables from the computer. Restart the computer, and then start VPanel. If VPanel will not start, reinstall it. After that, configure the settings so that no machines are assigned the same ID. Refer to "Setup Guide" ("Connecting Multiple Units") to perform the work.	-

The Spindle Does not Rotate

Is the spindle belt damaged or disconnected?	Check inside the maintenance cover. If the spindle belt is damaged, replace it.	P. 31

The Ionizer is Ineffective (Milling Waste Collects Around the Milling Area)

Is the workpiece being cut a PMMA workpiece?	The ionizer (static electricity eliminator) is only effective with PMMA. It has no effect on zirconia and wax workpieces.	-
Is there milling waste around the ionizer?	If milling waste is found, clean with a dust collector. Also the ionizer's effectiveness will decrease if milling waste is present. Do not touch inside the ionizer.	P. 29
Is the machine grounded?	The ionizer will not function properly if the machine is not grounded.	-

Compressed Air Does Not Come Out

Does the operation require compressed air?	Compressed air is only supplied during some operations, such as when the spindle is rotating or when replacing the milling bur.	-
Is the regulator properly connected and the pressure settings correctly configured?	Check the connection. Also, check whether the regulator indicates zero. If the set pressure of the regulator is zero, compressed air will not be supplied. Refer to "Setup Guide" ("Preparing the Regulator").	P. 18
Is the knob at the bottom of the regulator open?	The compressed air will escape if the knob at the bottom of the regulator is open.	P. 38

Automatic Correction Fails

Is the automatic correction jig, detection pin, or ATC magazine dirty?	Clean away any grime on the automatic correction jig, the detection pin, or the ATC magazine. Fouling due to buildup of milling waste or the like on any of these may impede correct sensor operation, making detection impossible.	P. 33
Is the automatic correction jig properly attached?	Verify that the automatic correction jig is properly attached.	P. 33
Is the detection pin properly attached?	Verify that the detection pin is properly attached. Check the position of the milling bur holder on the detection pin. Refer to "Setup Guide" ("Dimensional Drawings "Detection Pin Dimensions)	P. 33

The Milling Bur Management Information was Lost

Was the machine name (printer name) changed?	Milling bur info is saved per machine name (printer name). Before changing the machine name (printer name), make sure to record the milling bur info separately. Milling bur info can be recovered by returning the machine name (printer name) to the original name.	-

Milling Quality Problems

The Milled Surface is Not Attractive

Is the workpiece firmly secured in place?	Check the mounting condition of the workpiece. Fasten the workpiece in place securely so that it will not slip out of place or come loose because of milling bur pressure or vibration during milling.	P. 19
Is the milling bur worn?	If the same milling bur is used for milling for a long period of time, it will become worn and affect milling results. Try replacing the milling bur with a new one. The work time of the milling bur can also be managed in VPanel.	P. 12
Are the milling conditions too strict?	Strict milling conditions may affect milling results. Review the CAM milling conditions.	-

There is a Line of Level Difference in the Milling Results

Is the machine out of correction?	The origin point may become out of position due to prolonged use or relocating the machine, which can result in a line of level difference. Perform automatic correction. If expected results cannot be obtained even after performing automatic correction, perform manual correction. With manual correction, changing the Y value in Origin point may improve the situation.	P. 33
Are the CAM milling settings correct?	Depending on the milling conditions, a line of level difference may occur. Review the CAM milling conditions.	-

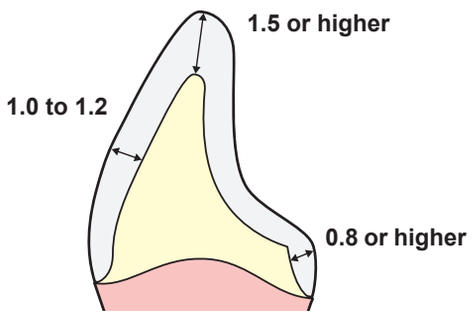
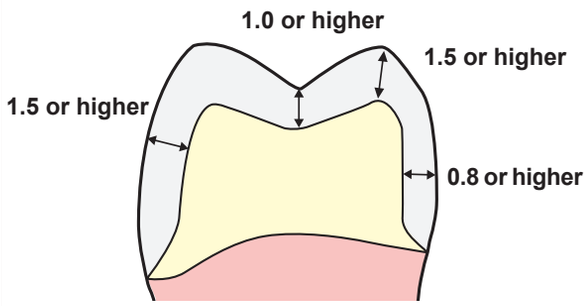
Chipping (Edges of Milling Products Become Chipped) Occurs

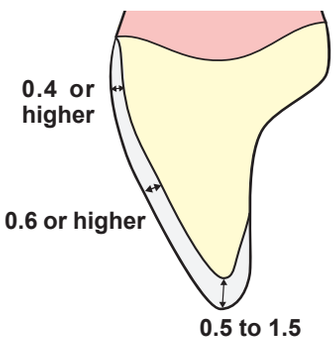
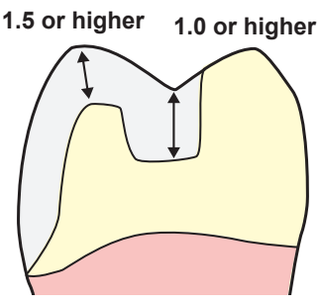
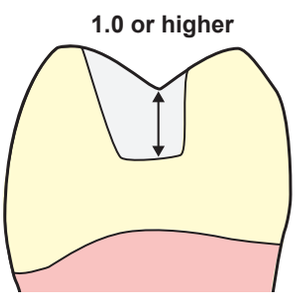
Is the installation base of the machine secure?	The vibration from milling can shake the installation base. Install the machine in a level and stable location.	-
Is the workpiece firmly secured in place?	Check the mounting condition of the workpiece. If the workpiece is not mounted correctly, it may come loose during milling and may become misaligned.	P. 19
Is the milling bur worn?	If the same milling bur is used for milling for a long period of time, it will become worn and affect milling results. Try replacing the milling bur with a new one. The work time of the milling bur can also be managed in VPanel.	P. 12
Are the milling conditions too strict?	Strict milling conditions may affect milling results. Review the CAM milling conditions.	-

Is the thickness specified in the CAD data excessively thin?	If the thickness of workpieces is excessively thin, chipping is likely to occur. Check the shape specified in the CAD data.	-

Recommended CAD data thickness

Unit:mm

Front tooth	Molar tooth
	

Veneer	Onlay	Inlay
		

A Hole Opens in the Milling Results

Do the milling bur diameter and ATC magazine number match the CAM settings?	Check the CAM's milling bur settings.	-
Is the machine out of correction?	The origin point may become out of position due to prolonged use or relocating the machine, which can affect milling results. Perform automatic correction. If expected results cannot be obtained even after performing automatic correction, perform manual correction. With manual correction, changing the Z value in the + direction in Origin point may improve the situation.	P. 33
Are the milling conditions too strict?	Strict milling conditions may affect milling results. Review the CAM milling conditions.	-

The Dimensions of the Milling Results Do Not Match

Does the milling bur diameter match the CAM settings? Is the CAM shrinking percentage setting proper for the workpiece?	⇨	Check the CAM settings.	-
Does the settings of the sintering program match the workpiece?	⇨	Check the set temperature of the sintering program to see if it matches the workpiece of the manufacturer used.	-

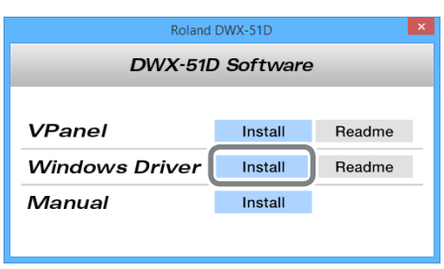
Installation Trouble

Installing the Driver Separately

With this machine, you can also install the driver, software, and electronic-format manual all at once. To install all at once, see "Setup Guide" ("Installing the Software").

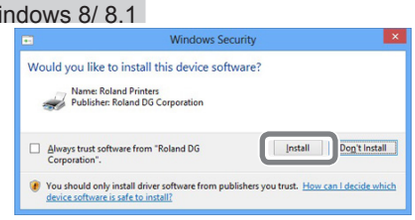
Procedure

1. **Before installation, confirm that the machine and the computer are not connected with the USB cable.**
2. **Log on to Windows as an "Administrator."**
3. **Insert the Roland Software Package CD into the CD-ROM drive of the computer.**
   When the automatic playback window appears, click [Run menu.exe]. If a [User Account Control] window appears, click [Allow] or [Yes], and continue with the installation. The setup menu screen appears automatically.
   If the driver is already installed, uninstall it.
   ☞ P. 52"Uninstalling the Driver"
   Go to Step 4 if the driver is not installed or if it has been uninstalled.
4.

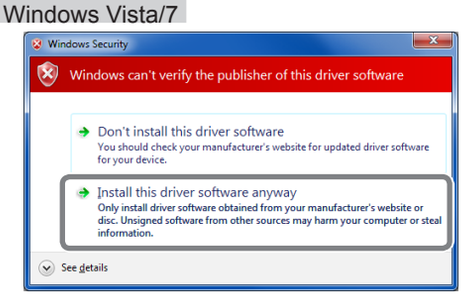
Click [Custom Install] for the "DWX-51D Software."
5. 

Click [Install] for the "Windows Driver."

Windows 8/ 8.1


Windows Security
Would you like to install this device software?
Name: Roland Printers
Publisher: Roland DG Corporation
Always trust software from "Roland DG Corporation".
Install
Don't Install
You should only install driver software from publishers you trust. How can I decide which device software is safe to install?
When the window shown in the figure appears, click [Install].

Windows Vista/7


Windows Security
Windows can't verify the publisher of this driver software
Don't install this driver software
You should check your manufacturer's website for updated driver software for your device.
Install this driver software anyway
Only install driver software obtained from your manufacturer's website or disc. Unsigned software from other sources may harm your computer or steal information.
See details
If the window shown in the figure appears, click [Install this driver software anyway].

⑥ Follow the on-screen instructions to proceed with the installation.

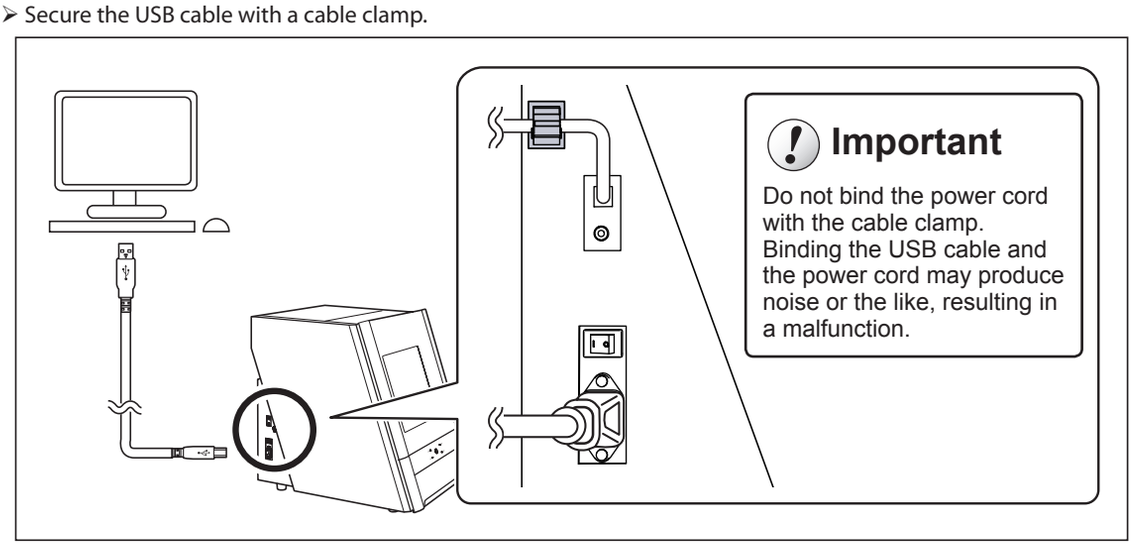
⑦ When the installation finishes, click [×] on the setup menu.

⑧ Remove the Roland Software Package CD.

⑨ Turn on the power to the machine.

⑩ Connect the machine to the computer using the USB cable.

- If connecting more than one unit of this machine to a single computer, refer to "Setup Guide" ("Connecting Multiple Units").
- For the USB cable, use the included cable.
- Do not use a USB hub. Connection may not be possible.
- Secure the USB cable with a cable clamp.


Important
Do not bind the power cord with the cable clamp. Binding the USB cable and the power cord may produce noise or the like, resulting in a malfunction.

The driver will be installed automatically.

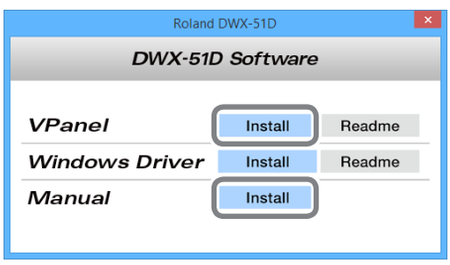
Installing the Softwear and the Electronic Manual Separately

1. **Log on to Windows as an “Administrator.”**

2. **Insert the Roland Software Package CD into the CD-ROM drive of the computer.**
When the automatic playback window appears, click [Run menu.exe]. If a [User Account Control] window appears, click [Allow] or [Yes], and continue with the installation. The setup menu screen appears automatically.

3.

Click [Custom Install] for the "DWX-51D Software."

4. 

Click [Install] for "VPanel" or "Manual."

5. **Follow the on-screen instructions to proceed with the installation.**

6. **When the installation finishes, click × on the setup menu.**

7. **Remove the Roland Software Package CD-ROM.**

With this machine, you can also install the driver, software, and electronic-format manual all at once. To install all at once, see "Setup Guide" ("Installing the Software").

Driver Installation Is Impossible

If installation quits partway through or when VPanel does not recognize the machine, the driver may not have been installed correctly. In such cases, perform the following procedures. (If procedure A does not solve your problem, perform procedure B.)

Windows 8 / 8.1 (procedure A)

1. Connect the machine to the computer with the USB cable and turn on the machine.
2. Click [Desktop].
3. Point to the lower-right corner of the screen to display the charms, and click [Settings].
4. Click [Control Panel].
5. Click [View devices and printers].
6. Check that the model you are using is displayed under "Unspecified."
7. Right-click the icon of the model you are using, and then click [Remove device].
8. When the message "Are you sure you want to remove this device?" is displayed, click [Yes].
9. Check that the icon for the model you are using is no longer displayed under "Unspecified."
10. Temporarily disconnect the USB cable connecting the machine to the computer, and then reconnect these devices.

If the printer icon for the machine you are using is displayed under "Printer," the driver has been successfully installed.
If you could not solve your problem by following this procedure, perform the procedure under "Windows 8/8.1 (procedure B)."

Windows 8 / 8.1 (procedure B)

1. Connect the machine to the computer with the USB cable and turn on the machine.
2. If the [Found New Hardware] appears, click [Close] to close it. Disconnect any USB cables for printers or other such equipment other than this machine.
3. Click [Desktop].
4. Point to the lower-right corner of the screen to display the charms, and click [Settings].
5. Click [PC info].
6. Click [Device Manager]. If the [User Account Control] window appears, click [Continue]. [Device Manager] appears.
7. Click [Show hidden devices] from the [View] menu.
8. In the list, find [Printers] or [Other devices], then double-click it. Under the selected item, click the name of the model you are using or [Unknown device].
9. Go to the [Action] menu, and click [Uninstall].
10. In the "Confirm Device Uninstall" window, click [OK]. Close [Device Manager].
11. Detach the USB cable from the computer, and then restart Windows.
12. Uninstall the driver. Carry out the steps from step 3 on page 52 “Uninstalling the Driver (Windows 8/8.1)” to uninstall the driver.
13. Reinstall the driver again following "Setup Guide" ("Installing the Software") or P. 48"Installing the Driver Separately".

Windows 7 (procedure A)

1. Connect the machine to the computer with the USB cable and turn on the machine.
2. From the [Start] menu, click [Devices and Printers].
3. Check that the model you are using is displayed under "Unspecified."
4. Right-click the icon of the model you are using, and then click [Troubleshooting].
5. When a screen is displayed with the message "Install a driver for this device," click [Apply this fix].
6. If a message is displayed asking you to "Set as default printer," click [Skip this fix].
7. When the message "Troubleshooting has completed" is displayed, click [Close the troubleshooter].

If the printer icon for the machine you are using is displayed under "Printer," the driver has been successfully installed.
If you could not solve your problem by following this procedure, perform the procedure under "Windows 7 (procedure B)."

Windows 7 (procedure B)

1. If [Found New Hardware] appears, click [Close] to close it.
2. Click the [Start] menu, then right-click [Computer]. Click [Properties].
3. Click [Device Manager]. The [User Account Control] appears, click [Continue]. [Device Manager] appears.
4. Click [Show hidden devices] from the [View] menu.
5. In the list, find [Other devices] , then double-click it. Under the selected item, click the name of the model you are using or [Unknown device].
6. Go to the [Action] menu, and click [Uninstall].

7. In the "Confirm Device Uninstall" window, select [Delete the driver software for this device.], then click [OK]. Close [Device Manager].
8. Detach the USB cable from the computer, and then restart Windows.
9. Uninstall the driver. Carry out the steps from step 3 on page 52 “Uninstalling the Driver (Windows Vista / 7)” to uninstall the driver.
10. Reinstall the driver again according to the procedure in "Setup Guide" ("Installing the Software") or P. 50"Installing the Softwear and the Electronic Manual Separately".

Uninstalling the Driver

When uninstalling the driver, perform the following operation.

Windows 8 / 8.1

*If the driver is uninstalled without following the procedure given below, there is a possibility that it might not be able to be re-installed.

1. Turn off the machine and remove the cable connecting the machine to the computer.
2. Log on to Windows as an administrator.
3. Click [Desktop].
4. Point to the lower-right corner of the screen to display the charms, and click [Settings].
5. Click [Control Panel] and then click [Uninstall a program].
6. Select the driver of the machine to remove by clicking it, and then click [Uninstall].
7. The following removal confirmation message will appear. Click [Yes].
8. Click [Start] and then click [Desktop].
9. Open Explorer, and then open the drive and folder containing the driver. (*)
10. Double-click "SETUP64.EXE" (64-bit version) or "SETUP.EXE" (32-bit version).
11. If the [User Account Control] window appears, click [Allow]. The setup program for the driver starts.
12. Click [Uninstall]. Select the machine to remove and click [Start].
13. If it is necessary to restart your computer, a window prompting you to restart will appear. Click [Yes].
14. After the computer has restarted, open the Control Panel again, and click [View devices and printers].
15. If you can see the icon of the machine to remove, right-click it and click [Remove device].

(*) When using the CD, specify the folder as shown below. (This is assuming your CD drive is the D drive.)
D:\Drivers\WIN8X64 (64-bit versions)
D:\Drivers\WIN8X86 (32-bit versions)
If you're not using the CD, go to our special Easy Shape website (http://www.rolandeasyshape.com) and download the driver for the machine you want to remove, and then specify the folder where you want to extract the downloaded file.

Windows Vista / 7

*If the driver is uninstalled without following the procedure given below, there is a possibility that it might not be able to be re-installed.

1. Before you start uninstallation of the driver, unplug the USB cables from your computer.
2. Log on to Windows as an administrator.
3. From the [Start] menu, click [Control Panel]. Click [Uninstall a program].
4. Select the driver of the machine to remove by clicking it, and then click [Uninstall].
5. The following removal confirmation message will appear. Click [Yes].
6. From the [Start] menu, choose [All Programs], then [Accessories], then [Run], and then click [Browse].
7. Choose the name of the drive or folder where the driver is located. (*)
8. Select "SETUP64.EXE" (64-bit version) or "SETUP.EXE" (32-bit version) and click [Open], and then click [OK].
9. The [User Account Control] appears, click [Allow].
10. The setup program for the driver starts.
11. Click [Uninstall] to choose it. Select the machine to remove and click [Start].
12. If it is necessary to restart your computer, a window prompting you to restart will appear. Click [Yes].
13. The uninstallation will be finished after the computer restarts.

(*)
When using the CD, specify the folder as shown below. (This is assuming your CD drive is the D drive.)
<< Windows Vista >>
D:\Drivers\WINVISTAX64 (64-bit versions)
D:\Drivers\WINVISTAX86 (32-bit versions)

<< Windows 7 >>
D:\Drivers\WIN7X64 (64-bit versions)
D:\Drivers\WIN7X86 (32-bit versions)

If you're not using the Roland Software Package CD, go to our special Easy Shape website (http://www.rolandeasyshape.com) and download the driver for the machine you want to remove, and then specify the folder where you want to extract the downloaded file.

Uninstalling VPanel

When uninstalling VPanel, perform the following operation.

Windows 8 / 8.1

1. Exit VPanel. (Right-click (VPanel icon) in the task tray and select "Exit.")
2. On the desktop, point to the lower-right corner of the screen to display the charms, and click [Settings].
3. Click [Control Panel] and then click [Uninstall a program].
4. Select "Roland VPanel for DWX-51D" and click [Uninstall].
5. Follow the on-screen instructions to uninstall.

Windows Vista / 7

1. Exit VPanel. (Right-click (VPanel icon) in the task tray and select "Exit.")
2. From the [Start] menu, click [Control Panel] and then click [Programs and Features].
3. Select "Roland VPanel for DWX-51D" and click [Uninstall] (or "Delete").
4. Follow the on-screen instructions to uninstall.

Responding to Error Messages

This section describes the error messages that may appear on VPanel and how to take action to remedy the problem. If the action described here does not correct the problem, if an error message not described here appears, contact your authorized Roland DG Corporation dealer.

Error number	Message	Situation/error cause	Action
1000-****	**The % limit switch is not found. (% may be "X," "Y," "Z," "A,"or "B.")**	The operation may be inhibited by milling waste or an obstruction.	1. Turn off the power. 2. Remove any objects blocking operation of the machine and any accumulated milling waste. 3. Turn on the power, and then restart operation.
1006-****	**The % axis position has been shifted. (% may be "X," "Y," "Z," "A,"or "B.")**	The motor position may have been lost.	1. Remove any objects blocking operation of the machine and any accumulated milling waste. 2. Press and hold the operation button on the built-in panel. This will clear the error.
		The milling conditions may be excessively strict.	1. Press and hold the operation button on the built-in panel. This will clear the error. 2. Review the CAM settings and the shape specified in the CAD data.
1017-0000	**The front cover is open.**	The front cover was opened during spindle rotation. (For safety, the machine comes to an emergency stop if the front cover is opened while the spindle is rotating.)	**To continue milling** Press the operation button on the built-in panel to resume milling. **To stop milling** Press and hold the operation button on the built-in panel. Do not open the front cover while the spindle is rotating. Doing so may affect the milling results.
101C-0000	**The milling bur sensor is not found.**	The operation may be inhibited by milling waste or an obstruction.	1. Turn off the power. 2. Remove any objects blocking operation of the machine and any accumulated milling waste. 3. Turn on the power, and then restart operation.
101D-****	**The % milling bur cannot be released. (% may be "1 to 10")**	The returning of the milling bur failed. The inside of the collet or the ATC magazine might be dirty.	1. Press and hold the operation button on the built-in panel. This will clear the error. 2. Clicking "Open collet" in VPanel will open the collet. Remove the milling bur. ☞ P. 9""Maintenance" Tab" 3. Clean the ATC magazine. ☞ P. 29"Cleaning after Milling Finishes" 4. Retighten the collet. ☞ P. 36"Retightening the Collet" If the error occurs again even after you perform the above operations, the collet may have become deformed. Replace the collet with a new one.
		The collet and milling bur are affixed together and cannot be separated. The inside of the collet might be dirty.	

Error number	Message	Situation/error cause	Action
101E-****	**The % milling bur might be broken. (% may be "1 to 10")**	The milling bur might be broken.	1. Press and hold the operation button on the built-in panel to clear the error. 2. If the milling bur is broken, replace it with a new one. 3. If the position of the milling bur holder is not appropriate, correct the position. ☞ P. 23"STEP 2: Attaching the Milling Bur"
		The milling bur holder might be out of position.	
		The milling conditions may be excessively strict.	1. Press and hold the operation button on the built-in panel. This will clear the error. 2. Review the CAM settings and the shape specified in the CAD data.
		The collet may be worn out.	If the error occurs again even after you perform the above operations, the collet may have worn out, leading to a decrease in its retention capabilities. Replace the collet with a new one.
101F-****	**The % milling bur chucking has slipped out. (% may be "1 to 10")**	The collet may have come loose.	1. Press and hold the operation button on the built-in panel to clear the error. 2. Retighten the collet. ☞ P. 36"Retightening the Collet"
		The milling conditions may be excessively strict.	1. Press and hold the operation button on the built-in panel. This will clear the error. 2. Review the CAM settings and the shape specified in the CAD data.
		The collet may be worn out.	If the error occurs again even after you perform the above operations, the collet may have worn out, leading to a decrease in its retention capabilities. Replace the collet with a new one.
1020-**** 1021-****	**The % milling bur is too long.** **The % milling bur is too short. (% may be "1 to 10")**	There is a possibility that the position of the milling bur holder is not correct.	Replace the milling bur with one of the appropriate length (40 to 55 mm). Also check the position of the milling bur holder. ☞ P. 23"STEP 2: Attaching the Milling Bur"
1022-****	**The % milling bur is not found. (% may be "1 to 10")**	The milling bur has not been set or it may have been mounted on an incorrect stocker number.	1. Set the milling bur in the correct position again. **If milling is in progress** Close the front cover, and press and hold the built-in panel's operation button. Resume milling.
		There is a possibility that the ATC magazine is out of position.	Perform automatic correction. ☞ P. 33"Correcting the Milling Machine"
		The collet may be worn out.	Replace the collet. If the error occurs again even after you perform the above operations, replace the spindle unit with a new one.

Error number	Message	Situation/error cause	Action
1023-0000	**Milling data error. The number of parameters is incorrect.**	There may be a problem with the milling data received from the computer.	1. Press and hold the operation button on the built-in panel. This will clear the error. 2. Check the milling data. If there is no problems with the milling data, restart the computer, and then perform milling again.
1024-0000	**Milling data error. The parameter is out of range.**		
1025-0000	**Milling data error. A wrong command is detected.**		
1026-0000	**Milling data error. The address is not defined.**		
1027-0000	**Milling data error. The parameter is not defined.**		
1028-0000	**Milling data error. The operation cannot be executed.**		
1029-0000	**The spindle experienced an overload.**	The spindle stopped under a large milling load or other cause. The following are likely reasons. • The milling bur is worn. • A workpiece that cannot be milled by the machine is being used. • The milling conditions are too strict.	1. Turn off the power. 2. Check the milling bur, the workpiece, and the CAM settings as well as the shape specified in the CAD data. 3. Allow the machine to rest for some time before turning the power on because the motor may have overheated.
102A-0000	**The spindle experienced overcurrent.**		
102B-0000	**The spindle motor temperature is high.**		
102D-0000	**The spindle does not turn.**	The cable may be broken or the spindle unit may be defective.	Turn off the power and contact your authorized Roland DG Corporation dealer.
1030-0000	**The dust collector is not working.**	Make sure the dust collector is connected correctly and the power is on.	Turn the dust collector on, and check the dust collector settings and the filter.
103B-0000	**The automatic correction is not yet finished.**	Automatic correction may not have been performed.	1. Press and hold the operation button on the built-in panel. This will clear the error. 2. Perform automatic correction. ☞ P. 33"Correcting the Milling Machine"
		Automatic correction may have been cancelled before it could finish.	
		Automatic correction may not have been performed after updating the firmware to a version that required automatic correction to be performed again.	
		The VPanel and machine firmware versions may not match.	Download the latest versions of VPanel and the machine's firmware from our special Easy Shape website (http://www.rolandeasyshape.com), and then install these versions.

Error number	Message	Situation/error cause	Action
103D-0000	**103D-0000 Milling data error. The milling bur has not reached the milling position.**	If the milling bur is too short, or if the angle of the A axis and B axis are too large, the milling bur may not reach the milling position in the Z direction.	1. Press and hold the operation button on the built-in panel. This will clear the error. 2. Check the milling bur length and the position of the milling bur holder. ☞ P. 23"STEP 2: Attaching the Milling Bur" 3. Review the CAM settings, and decrease the angles of the A axis and the B axis.

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